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# INTEGRATED MANAGEMENT OF NEONATAL & CHILDHOOD ILLNESS

# Management of the Sick Young Infant Age Less Than 2 Months

Ministry of Health, Pakistan

World Health Organization

unicef

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# MANAGEMENT OF THE SICK YOUNG INFANT AGE LESS THAN 2 MONTHS

**Government of Pakistan**
**World Health Organization and UNICEF**
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# CONTENTS

# INTRODUCTION

In this module you will learn to manage a sick young infant age up to 2 months. The process is very similar to the one you have learned for managing the sick child age 2 months up to 5 years. All the steps are on one chart:

Assess
Classify
Treat
Counsel the mother
Follow-up

Young infants have special characteristics that must be considered when classifying their illness. In the first few days of life, newborn infants are often sick from conditions related to labour and delivery. These conditions include birth asphyxia, preterm birth and early-onset infections. Newborns who have any of these conditions need immediate attention.

Severe infections are most common serious illness during the first two months of life. Young infants can become sick and die very quickly from serious bacterial infections. Infections are particularly more dangerous in low birth weight infants. Young infants differ from older infants and children in the way they manifest signs of infection. They frequently have only general signs such as difficulty in feeding, reduced movements, fever or low body temperature. Another clinical sign that is different in young infants is only severe lower chest indrawing is an important sign of severe disease. Mild chest indrawing is normal in young infants because their chest wall is soft.

For these reasons, you will assess, classify and treat the young infant somewhat differently than an older infant or young child. The *YOUNG INFANT* chart lists the special signs to assess, classifications, and treatments for young infants. You will use this chart for sick young infants, including newborns, from birth up to 2 months of life.

Skilled care provided to the mother during labour and delivery and to the newborn immediately after birth can prevent many complications. It is therefore recommended that all births should be attended by health professionals skilled in delivery and immediate newborn care. Guidance on care during delivery and immediate newborn care is not included in the IMCI chart. It is available in the *WHO Pregnancy, Childbirth, Postpartum and Newborn Care: A guide for essential practice* (reference).

To assess and classify a sick young infant, you will first ask the mother or another family member about young infant's problems.

Then check **all** young infants for very severe disease and local bacterial infection. This is done because young infants may often only have general signs of illness, which may not be well-recognized as signs of illness by the mother. The signs included in the chart are based on evidence from a recent, large multi-centre research study. They can detect severe disease in the young infant, including potentially serious conditions which are common in the first week of life.

Next, ask about diarrhoea and classify diarrhoea, if present. Then assess and classify **all** young infants for feeding problem or low weight. Also check the infants' immunization status and assess other problems mentioned by the mother.

There is a special recording form for young infants. It is similar in format to the form for older infants and young children. It lists signs to assess in a young infant. (A copy of this form is in the Annex.)

Some of what you already learned in managing sick children age 2 months up to 5 years is useful for young infants. This module will focus on new information and skills that you need to manage young infants.

## LEARNING OBJECTIVES

This module will describe the following tasks and allow you to practice some of them (some will be practiced in the clinic):

* assessing and classifying a young infant for very severe disease and local bacterial infection

* assessing and classifying a young infant with diarrhoea

* checking for a feeding problem or low weight, assessing breastfeeding and classifying feeding

* providing pre-referral treatment to a young infant with very severe disease
* treating a young infant with oral or intramuscular antibiotics

* teaching the mother to treat local infections at home

* giving fluid for treatment of diarrhoea

* teaching correct positioning and attachment for breastfeeding

* teaching the mother how to express breast milk and feed the infant by a cup

* teaching the mother how to feed and keep a low weight infant warm at home

* advising the mother how to give home care for the young infant

# 1.0 ASSESS AND CLASSIFY THE SICK YOUNG INFANT

A mother (or other family member such as the father, grandmother, sister or brother) usually brings a young infant to the clinic because the infant is sick. But mothers also bring their infants for well-baby visits, immunization sessions and for other problems. The steps on the *YOUNG INFANT* chart describe what you should do when a mother brings her young infant to the clinic because the infant is sick. The chart should not be used for an infant with an injury or burn.

Ask the mother what the young infant's problems are. Determine if this is an initial or follow-up visit for these problems. If this is a follow-up visit, you should manage the infant according to the special instructions for a follow-up visit. These special instructions are in the follow-up boxes at the bottom of the *YOUNG INFANT* chart. They are taught in the module *Follow-up*.

If it is an initial visit, follow the sequence of steps on the chart. This section teaches the steps to assess and classify a sick young infant at an initial visit:

* Check for signs of very severe disease and local bacterial infection. Then classify the young infant based on the signs found.
* Ask about diarrhoea. If the infant has diarrhoea, assess the related signs. Classify the young infant for dehydration.
* Check for feeding problem or low weight. This includes assessing breastfeeding. Then classify feeding.
* Check the young infant's immunization status.
* Assess any other problems.

If you find a reason that a young infant needs urgent referral, you should continue and complete the assessment quickly. However, skip the breastfeeding assessment for this infant because it can take some time.

## 1.1 CHECK THE YOUNG INFANT FOR VERY SEVERE DISEASE AND LOCAL BACTERIAL INFECTION

This assessment step is done for ***every*** sick young infant. In this step you are looking for signs of very severe disease, especially a serious infection. A young infant can become sick and die ***very quickly*** from serious bacterial infections such as pneumonia, sepsis and meningitis. The signs of very severe disease also identify young infants who have other serious conditions like severe birth asphyxia and complications of preterm birth.

It is important to assess the signs in the order on the chart, and to keep the young infant calm. The young infant ***must be calm*** and may be asleep while you assess the first four signs, that is, count breathing and look for chest indrawing and grunting. If the infant is awake, observe his or her movements.

To assess the next few signs, you will pick up the infant and then undress him, look at the skin all over his body and measure his temperature. If the infant was sleeping earlier, by this time he or she will probably be awake. Then you can see and observe his or her movements.

**ASK THE MOTHER WHAT THE YOUNG INFANTS PROBLEMS ARE**

??Determine if this is a initial or follow-up visit for this problem.

-If follow-up visit, use the follow-up instructions on the bottom of this chart.

-If initial visit, assess the young infant as follows:

## CHECK FOR VERY SEVERE DISEASE AND LOCAL BACTERIAL INFECTION

| ***ASK:*** | ***LOOK, LISTEN, FEEL:*** |
|---|---|
| • Has the infant had convulsions (fits)? | • Count the breaths in one minute. Repeat the count if elevated.<br>• Look for severe chest indrawing.<br>• Look and listen for grunting.<br>} YOUNG INFANT MUST BE CALM |
| • Is the infant having difficulty in feeding? | • Measure axillary temperature. |
| | • Look at the umbilicus. Is it red or draining pus?<br>• Look for skin pustules. |
| | • Look at the young infant's movements.<br>Does the infant move only when stimulated?<br>Does the infant not move even when stimulated? |

How to assess each sign is described below:

**ASK: Has the infant had convulsions (fits)?**

Ask the mother if the young infant has had convulsions during this current illness. Use words the mother understands. For example, the mother may know convulsions as "fits" or "spasms". During a convulsion, the young infant's arms and legs may become stiff. The infant may stop breathing and become blue. Many times there may only be a rhythmic movements of a part of the body, such as

rhythmic twitching of the mouth or blinking of eyes. The young infant may lose consciousness.

**ASK: Is the infant having difficulty in feeding?**

Ask the mother this question. Any difficulty mentioned by the mother is important. A newborn who has not been able to feed since birth may be premature or may have complications such as birth asphyxia. A young infant who was feeding well earlier but is not feeding well now may have a serious infection. These infants who are either **not able to feed** or are **not feeding well** should be referred urgently to hospital. The mother may also mention difficulties like: her infant feeds too frequently, or not frequently enough; she does not have enough milk; her nipples are sore; or she has flat or inverted nipples. You will assess these difficulties later during breastfeeding assessment.

**LOOK: Count the breaths in one minute. Repeat the count if elevated.**

Count the breathing rate as you would in an older infant or young child. Young infants usually breathe faster than older infants and young children. The breathing rate of a healthy young infant is commonly more than 50 breaths per minute. Therefore, 60 breaths per minute or more is the cutoff used to identify fast breathing in a young infant.

If the first count is 60 breaths or more, repeat the count. This is important because the breathing rate of a young infant is often irregular. The young infant will occasionally stop breathing for a few seconds, followed by a period of faster breathing. If the second count is also 60 breaths or more, the young infant has fast breathing.

**LOOK for severe chest indrawing.**

Look for chest indrawing as you would look for chest indrawing in an older infant or young child. However, mild chest indrawing is normal in a young infant because the chest wall is soft. Severe chest indrawing is very deep and easy to see. Severe chest indrawing is a sign of pneumonia and is serious in a young infant.

**LOOK and LISTEN for grunting.**

Grunting is the soft, short sounds a young infant makes when breathing out. Grunting occurs when an infant is having trouble breathing and is a sign of serious illness.

**Measure axillary temperature.**

Keep the thermometer high in the axilla and then hold the young infant's arm against his body for at least 3 minutes (*NOTE: TO BE REVIEWED*) before reading the temperature. If you do not have a thermometer, feel the infant's abdomen or axilla (underarm) and determine if it feels hot or unusually cool.

Fever (axillary temperature more than 37.5C or rectal temperature more than 38C) is uncommon in the first two months of life. If a young infant has fever, this may mean the infant has very severe disease. Fever may be the ***only*** sign of a serious bacterial infection. Young infants can also respond to infection by dropping their body temperature to below 35.5C (36C rectal temperature). Low body temperature is called hypothermia. The thresholds in the YOUNG INFANT chart are based on axillary temperature, the thresholds for rectal temperature are approximately 0.5C higher.

**LOOK at the umbilicus - is it red or draining pus?**

The umbilical cord usually separates one week after birth and wound heals within 15 days. Redness of the end of the umbilicus or pus draining from the umbilicus are signs of umbilical infection. Early recognition and treatment of an infected umbilicus are essential to prevent sepsis.

**LOOK for skin pustules. Are there pustules?**

Examine the skin on the entire body. Skin pustules are red spots or blisters which contain pus.

**LOOK at the young infant's movements. Does the young infant move only when stimulated? Are there no movements even after the young infant is stimulated?**

Young infants often sleep most of the time, and this is not a sign of illness. If a young infant does not wake up during the assessment, ask the mother to wake him. An awake young infant will normally move his arms or legs or turn his head several times in a minute if you watch him closely. Observe the infant's movements while you do the assessment.

If the infant is awake but has no spontaneous movements, gently stimulate the young infant. If the infant moves only when stimulated and then stops moving, or does not move even when stimulated, it is a sign of severe disease.

Your facilitator will lead a drill to review the cut-offs for fast breathing in young infants, older infants and children.

# EXERCISE A

**Part 1 -- Video**

You will watch a video of young infants. This will demonstrate how to assess a young infant for very severe disease and show examples of the signs.

**Part 2 -- Photographs**

Study the photographs numbered 60 - 62 in the booklet. Read the explanation below for each photo.

| | |
|---|---|
| Photograph 60: | Normal umbilicus in a newborn |
| Photograph 61: | A red umbilicus |
| Photograph 62: | Skin pustules |

Study the photographs numbered 63 - 65. Tick your assessment of the umbilicus of each of these young infants.

| Umbilicus | Normal | Redness or draining pus |
|---|---|---|
| Photograph 63 | | |
| Photograph 64 | | |
| Photograph 65 | | |

The group will discuss the video and photographs.

## 1.2 CLASSIFY ALL SICK YOUNG INFANTS FOR VERY SEVERE DISEASE AND LOCAL BACTERIAL INFECTION

Classify all sick young infants for very severe disease and local bacterial infection. Compare the infant's signs to signs listed in the chart and choose the appropriate classification. If the infant has any sign in the top row, select VERY SEVERE DISEASE. If the infant has any sign in the second row, select LOCAL BACTERIAL INFECTION . An infant who has none of the signs in the top two rows gets the classification BACTERIAL INFECTION UNLIKELY.

| SIGNS | CLASSIFY AS | TREATMENT (Urgent pre-referral treatments are in bold |
|---|---|---|
| ***Any one of the following signs***<br>• Convulsions **OR**<br>• Not feeding well **OR**<br>• Fast breathing (60 breaths per minute or more) **OR**<br>• Severe chest indrawing **OR**<br>• Grunting **OR**<br>• Fever (37.5℃* or above) **OR**<br>• low body temperature (less than 35.5℃*) **OR**<br>• Movements only when stimulated or no movements even when stimulated | **VERY SEVERE DISEASE** | ► ***Give first dose of Intramuscular antibiotics.***<br>► ***Treat to prevent low blood sugar.***<br>► ***Advise mother how to keep the infant warm on the way to the hospital.***<br>► ***Refer URGENTLY to hospital.*** ** |
| • Umbilicus red or draining pus<br>• Skin pustules | **LOCAL BACTERIAL INFECTION** | ► Give an appropriate oral antibiotic.<br>► Teach the mother to treat local infections at home.<br>► Advise mother to give home care for the young infant.<br>► Follow-up in 2 days. |
| • None of the signs of ver severe disease or local bacterial infection | **BACTERIAL INFECTION UNLIKELY** | ► Advise mother to give home care for young infant. |

### VERY SEVERE DISEASE

A young infant with signs in this classification may have a serious disease and be at high risk of dying. The infant may have complications of preterm birth, very low birth weight or birth asphyxia, or may have a serious infection. The serious infection may be pneumonia, sepsis or meningitis. It is difficult to distinguish between these conditions in a young infant. Fortunately, it is not necessary to make this distinction for the making the initial management decisions.

A young infant with any sign of VERY SEVERE DISEASE needs urgent referral to hospital. Before referral, give a first dose of intramuscular antibiotics. Treat to prevent low blood sugar by giving breast milk, or other milk or sugar water if it is not possible to give breast milk. If the young infant is not able to feed, give breast milk by nasogastric tube. Malaria is unusual in infants of this age, so give no treatment for possible severe malaria (Falciparum Malaria).

Advising the mother to keep her sick young infant warm is very important. Young infants have difficulty maintaining their body temperature. Low temperature alone can kill young infants.

**LOCAL BACTERIAL INFECTION**

Young infants with this classification have an infected umbilicus or a skin infection.

Treatment includes giving an appropriate oral antibiotic at home for 5 days. The mother will also treat the local infection at home and give home care. She should return for follow-up in 2 days to be sure the infection is improving. Bacterial infections can progress rapidly in young infants.

**BACTERIAL INFECTION UNLIKELY**

Young infants with this classification have none of the signs of very severe disease and local bacterial infection. Advise the mother to give homecare to the young infant..

**JAUNDICE**

Jaundice is a yellow discoloration of skin and mucus membranes. Many normal babies, particularly small babies (less than 2.5 kg at birth or born before 37 weeks gestation), may have jaundice during the first week of life. This jaundice usually appears on the third or fourth day of life and occurs because the infant's liver is not fully mature to eliminate the bilirubin formed in the body. This type of jaundice is mild and disappears before the age of two weeks in full term and by the age of three weeks in preterm babies. It does not need any treatment.

Jaundice that appears on the first day of life is always due to an underlying disease. Deep jaundice that extends to the palms and soles can be severe and required urgent treatment. If not treated, it may damage the baby's brain. Jaundice that persists beyond the age of two weeks in a normal weight baby and beyond three weeks in a small baby needs further investigation.

## CHECK THE YOUNG INFANT FOR JAUNDICE

Assess every young infant for jaundice. It is important to look for jaundice in natural light. To look for jaundice, press the infant's skin over the forehead with your fingers to blanch, remove your fingers and look for yellow discolouration. If there is yellow discoloration, the infant has jaundice. To assess for severity, repeat the process over the palms and soles.

| ***ASK:*** | ***LOOK, LISTEN, FEEL:*** |
|---|---|
| | • Look for jaundice<br>Look at the young infants plams and soles.<br>Are they yellow? |

## CLASSIFY FOR JAUNDICE

| | | |
|---|---|---|
| • Any jaundice if age less than 24 hours **or**<br>• Yellow palms and soles at any age | **SEVERE JAUNDICE** | ► ***Treat to prevent low blood sugar.***<br>► ***Refer URGENTLY to hospital.***<br>► ***Advise the mother how to keep the young infant warm on the way to the hospital.*** |
| • Jaundice appearing after 24 hours of age **and**<br>• Palms and soles not yellow | **JAUNDICE** | ► Advise the mother to give home care for the young infant<br>► Advise mother to return immediately if palms and soles appear yellow.<br>► Follow-up in 1 day. |
| • No jaundice | **NO JAUNDICE** | ► Advise the mother to give home care for the young infant. |

A young infant who is less than 24 hours of age and has jaundice should be classified as SEVERE JAUNDICE. Any young infant who has yellow palms and soles is also classified as having SEVERE jaundice.

Young infants with jaundice who are more than 24 hours old and do not have yellow palms and soles should be classified as having JAUNDICE.

A young infant who has no jaundice gets the classification NO JAUNDICE.

**MANAGE JAUNDICE**

Refer a young infant with SEVERE JAUNDICE to a hospital. Give all pre-referral treatments as for VERY SEVERE DISEASE except the first dose of intramuscular antibiotics.

Young infants with JAUNDICE need home care just like those without any problem. They do not need any medication. However, the mother needs to be counselled to return immediately if the jaundice becomes deeper or the palms and soles appear to be yellow. Also, you should follow up infants with jaundice in 1 day to assess if jaundice is worsening.

**FOLLOW UP FOR JAUNDICE**

At follow up, assess if the infant has yellow palms and soles. If the infant has yellow palms and soles, classify as SEVERE JAUNDICE and refer urgently to a hospital. If the young infant does not have yellow palms and soles but jaundice has not decreased compared to the initial visit, continue to follow up in 1 day until jaundice starts decreasing. If a young infant continues to have jaundice beyond 2 weeks of age, refer to a hospital for further assessment.

▶ **JAUNDICE**

After 1 day:

Look for jaundice. Are palms and soles yellow?

- If palms and soles are yellow, refer to hospital.
- If palms and soles are not yellow; but jaundice has not deceased, advise the mother home care and ask her to return for follow up in 1 day.
- If jaundice has started decreasing, reassure the mother and ask her to continue home care. Ask her to return for follow up at 2 weeks of age. If jaundice continues beyond two weeks of age, refer the young infant to a hospital for further assessment.

## 1.3 ASSESS DIARRHOEA

If the mother says that the young infant has diarrhoea, assess and classify for diarrhoea. The normally frequent, loose or semi-solid stools of a breastfed baby are not diarrhoea. The mother of a breastfed baby can recognize diarrhoea because the consistency or frequency of the stools is different than normal. A young infant has diarrhoea if the stools have changed from usual pattern and are many and watery (more water than fecal matter).

The assessment is similar to the assessment of diarrhoea for an older infant or young child, but fewer signs are checked. Thirst is not assessed. This is because it is not possible to distinguish thirst from hunger in a young infant.

## THEN ASK: Does the young infant have diarrhoea*?

| *IF YES,* | *LOOK AND FEEL:* |
|---|---|
| • For how Long?<br>• Is there blood in the stool | • Look at the young infant's general condition.<br>Does the infant move only when stimulated?<br>Does the infant not move even when stimulated?<br>Is the infant restless and irritable?<br>• Look for sunken eyes.<br>• Pinch the skin of the abdomen. Does it go back:<br>Very slowly (longer than 2 seconds)?<br>Slowly? |

# 1.4 CLASSIFY DIARRHOEA

Diarrhoea in a young infant is classified in the same way as in an older infant or young child. Compare the infant's signs to the signs listed and choose one classification for dehydration.

| | | |
|---|---|---|
| Two of the following signs:<br>• Movement only when stimulated or no movement even when stimulated<br>• Sunken eyes<br>• Skin pinch goes back very slowly. | **SEVERE DEHYDRATION** | ► If infant does not have VERY SEVERE DISEASE:<br>- Give fluid for severe dehydration (Plan C).<br>OR<br>► ***If infant also has VERY SEVERE DISEASE:***<br>***- Refer URGENTLY to hospital with mother giving frequent sips of ORS on the way.***<br>***Advise the mother to continue breastfeeding.*** |
| Two of the following signs:<br>• Restless, irritable<br>• Sunken eyes<br>• Skin pinch goes back slowly. | **SOME DEHYDRATION** | ► Give fluid and food for some dehydration (Plan B).<br>► If infant also has VERY SEVERE DISEASE:<br>***- Refer URGENTLY to hospital with mother giving frequent sips of ORS on the way.***<br>***Advise the mother to continue breastfeeding.***<br>► Advise mother when to return immediately.<br>► Follow-up in 2 days if not improving. |
| • Not enough signs to classify as some or severe dehydration. | **NO DEHYDRATION** | ► Give fluid to treat diarrhoea at home (Plan A).<br>► Advise mother when to return immediately.<br>► Follow-up in 2 days if not improving. |

### *Using the Young Infant Recording Form*

Below is part of a Young Infant Recording Form. The top lines are like the top of the Sick Child Recording Form. The next sections are for assessing and classifying VERY SEVERE DISEASE and LOCAL BACTERIAL INFECTION, and DIARRHOEA. Notice that for a young infant, there are no separate "general danger signs". Study the example below. It has been completed to show part of the assessment results and classifications for the infant Jomli.

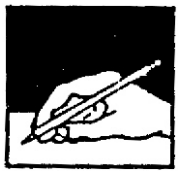
I.D-No_____

**MANAGEMENT OF THE SICK YOUNG INFANT AGE LESS THEN 2 MONTHS**

Name: Jamil Age: ____ days Present weight: 05 kg Birth weight 2.9 kg (for baby less then 7 days, if birth weight not know use present weight as birth weight) Temperature: 37.2 °C ____ F

ASK: What are the infant's problems? Skin rash Initial visit? ✓ Follow-up Visit? ____

| | | |
|---|---|---|
| **CHECK FOR VERY SEVERE DISEASE AND LOCAL BACTERIAL INFECTION**<br>• Has the infant had convulsions (fits)?<br>• Is the infant having difficultly in feeding?<br>• Count the breaths in one minute. 44 breaths per minutes.<br>Repeat if elevated the count if elevated _____ Fast breathing?<br>• Look for severe chest indrawing.<br>• Look and listen for grunting.<br>• Fever (temperature 37.5 ℃ or above)?<br>• Low body temperature (less than 35.5 ℃)<br>• Look at the young infant's movements.<br>Does the young infant move only when stimulated?<br>Does the young infant not moved even when stimulated?<br>• Look at the umbilicus. Is it red or draining pus?<br>• Look for skin pustules. | | |
| **THEN CHECK FOR JAUNDICE**<br>**ASK: LOOK, LISTEN, FEEL:**<br>Look for jaundice<br>Look at the young infant's palms and soles.<br>Are they yellow? | | |
| **DOES THE YOUNG INFANT HAVE DIARRHOEA?** Yes _____ No ✓<br>• Look at the young infant's general condition.<br>Does the infant move only when stimulated?<br>Does the infant not move even when stimulated?<br>Is the infant restless or imitable?<br>• Look for sunken eyes.<br>• Pinch the skin of the abdomen. Does it go back:<br>Very slowly (longer than 2 seconds)?<br>Slowly? | | |



# EXERCISE B

In this exercise you will practice recording assessment results on a Young Infant Recording Form. You will classify the infants for VERY SEVERE DISEASE, LOCAL BACTERIAL INFECTION OR INFECTION UNLIKELY, and for diarrhoea.

Get 5 blank Young Infant Recording Forms from a facilitator. Also, turn to the *YOUNG INFANT* chart in your chart booklet.

To do each case:

1. Label a recording form with the young infant's name.

2. Read the case information. Write the infant's age, weight, temperature and problem. Check "Initial Visit". (All the infants in this exercise are coming for an initial visit.)

3. Record the assessment results on the form.

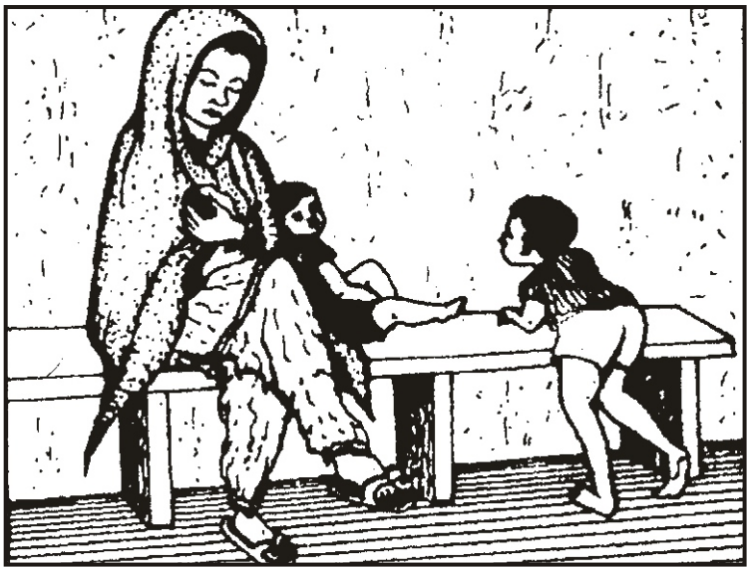
4. Classify the infant for VERY SEVERE DISEASE, LOCAL BACTERIAL INFECTION OR INFECTION UNLIKELY and for diarrhoea.

5. Then go to the next case.

**Case 1: Baby of Henna**

Male baby of Henna was born 6 hours ago at home. His weight is 3.0 kg. His axillary temperature is 36.5 C. He is brought to the health facility because he did not cry immediately after birth and is having difficulty breathing. The health worker first checks the young infant for signs of VERY SEVERE DISEASE and LOCAL BACTERIAL INFECTION. The baby's father says that the baby has not had convulsions and has not yet been fed. The health worker counts 74 breaths per minute. He repeats the count. The second count is 70 breaths per minute. He finds that the baby has severe chest indrawing. The baby does not have grunting. The baby moves only when he is stimulated. The umbilicus is normal, and there are no

skin pustules. The baby does not have diarrhoea.



**Case 2: Sashie**

Sashie is 1 week old. Her weight is 3.4 kg. Her axillary temperature is 37 C. Her mother brought her to the clinic because she has a rash. The health worker assesses for signs of very severe disease and local bacterial infection. Sashie's mother says that there were no convulsions and that the infant is feeding well. Sashie's breathing rate is 55 per minute. She has no chest indrawing, and no grunting. Her umbilicus is normal. The health worker examines her entire body and finds a red rash with a few skin pustules on her buttocks. She is awake and has spontaneous movements. She does not have diarrhoea.

**Case 3: Ebai**

Ebai is a tiny baby who was born exactly 2 weeks ago. His weight is 2.5 kg. His axillary temperature is 36.5 C. His mother says that he was born prematurely, at home, and was born much smaller than her other babies. She is worried because his umbilicus is infected. She says he has had no convulsions and is feeding well. The health worker counts his breathing and finds he is breathing 55 breaths per minute. He has no chest indrawing and no grunting. His umbilicus has some pus on the tip and is a little red. The health worker looks over his entire body and finds no skin pustules. He is awake and content and is moving normally. He does not have diarrhoea.

**Case 4: Jenna**

Jenna is 7 weeks old. Her weight is 3 kg. Her axillary temperature is 36.4℃. Her mother has brought her because she has diarrhoea. The health worker first assesses her for signs of very severe disease and local bacterial infection. Her mother says that she has not had convulsions and is feeding well. Her breathing rate is 58 per minute. She was sleeping in her mother's arms but awoke when her mother unwrapped her. She has slight chest indrawing and no grunting. Her umbilicus is not red or draining pus. She has a rash in the area of her diaper, but there are no pustules. She is crying and moving her arms and legs.

When the health worker asks the mother about Jenna's diarrhoea, the mother replies that it began 3 days ago. Jenna is still crying. She stopped once when her mother put her to the breast. She began crying again when she stopped breastfeeding. Her eyes look normal, not sunken. When the skin of her abdomen is pinched, it goes back slowly.

**Case 5: Neera**

Neera is 6 weeks old. Her weight is 4.2 kg. Her axillary temperature measures 36.5 C. Her mother brought her to the clinic because she has stopped feeding well

and seems very sick. When the health worker asks the mother if Neera has had convulsions, she says no. The mother says that Neera has not been feeding well since yesterday. The health worker counts 50 breaths per minute. Neera has no chest indrawing. She is not grunting. Her umbilicus is red and draining pus. There are no pustules on her body. Neera made no movements during the assessment and only moves slightly on stimulation. Neera does not have diarrhoea.

When you have completed this exercise, please discuss your answers with a facilitator.

Note: Keep the recording forms for these 5 young infants. You will continue to assess, classify and identify treatment for them later in this module.

## 1.5 THEN CHECK FOR FEEDING PROBLEM OR LOW WEIGHT

Adequate feeding is essential for growth and development. Poor feeding during infancy can have lifelong effects. Growth is assessed by determining weight for age. It is important to assess a young infant's feeding and weight so that feeding can be improved if necessary.

The best way to feed a young infant is to breastfeed exclusively. Exclusive breastfeeding means that the infant takes only breastmilk, and no additional food, water or other fluids. (Medicines and vitamins are exceptions.)

Exclusive breastfeeding gives a young infant the best nutrition and protection from disease possible. If mothers understand that exclusive breastfeeding gives the best chances of good growth and development, they may be more willing to breastfeed. They may be motivated to breastfeed to give their infants a good start in spite of social or personal reasons that make exclusive breastfeeding difficult or undesirable.

The assessment has two parts. In the first part, you ask the mother questions. You determine what the young infant is fed and how often. You also determine weight for age.
In the second part, if the infant does not have any indication to refer urgently to hospital, you assess how the infant breastfeeds.

### 1.5.1 Ask About Feeding and Determine Weight for Age

The first part of the assessment:

## THEN CHECK FOR FEEDING PROBLEM OR LOW WEIGHT

| *ASK:* | *LOOK, LISTEN, FEEL:* |
|---|---|
| • Is the infant breastfeed? If yes, how many times in 24 hours?<br><br>Does the infant usually receive any other foods or drinks? If yes, how often? | • Determine weight for age. |

**ASK: Is the infant breastfeed? If yes, how many times in 24 hours?**
The recommendation is that the young infant be breastfed as often and for as long

as the infant wants, day and night. This should be 8 or more times in 24 hours.

**ASK: Does the infant usually receive any other foods or drinks? If yes, how often?**

A young infant should be exclusively breastfed. Find out if the young infant is receiving ***any*** other foods or drinks such as other milk, juice, tea, thin porridge, dilute cereal, or even water. Ask how often he receives it and the amount. You need to know if the infant is mostly breastfed, or mostly fed on other foods.

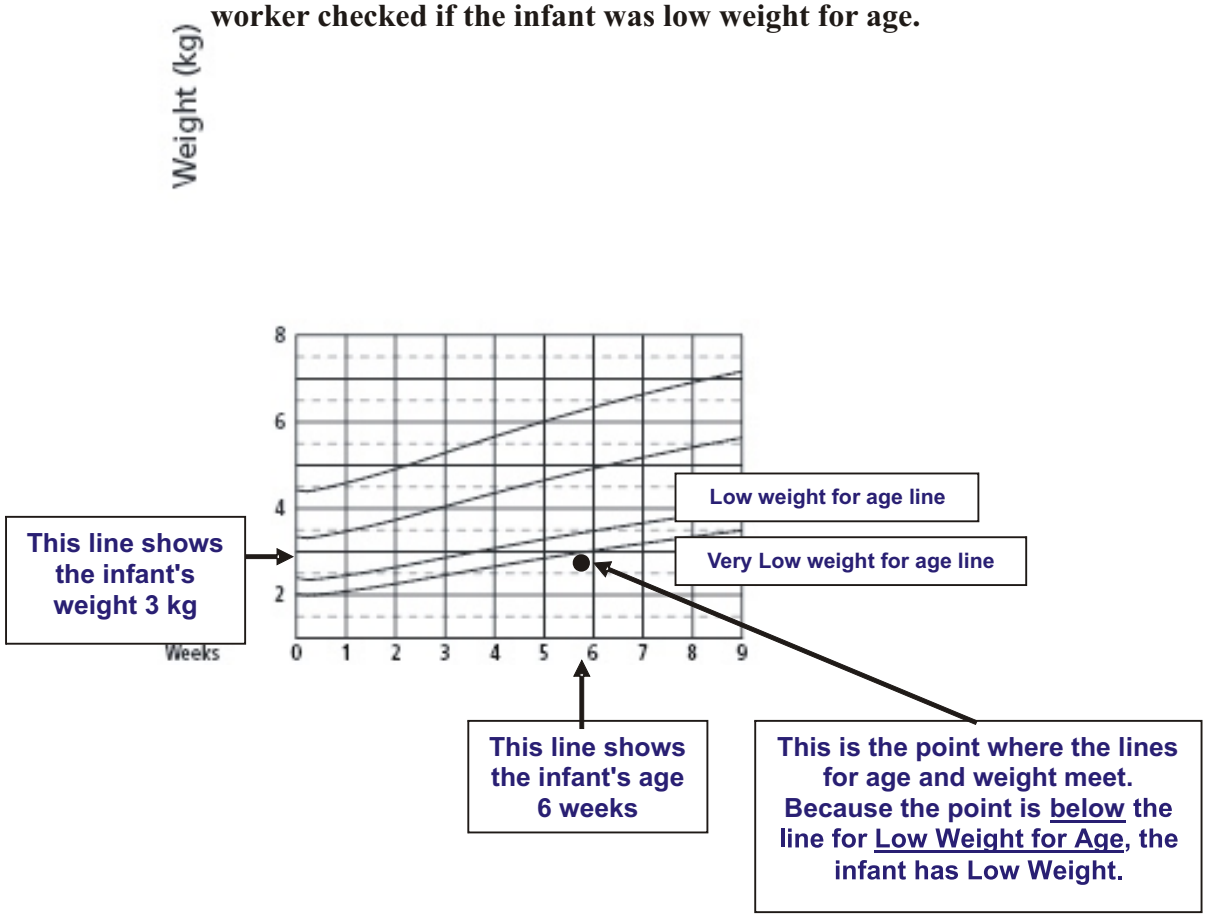
.

**LOOK: Determine weight for age.**

Use a weight for age chart to determine if the young infant is low weight for age. Notice that ***for a young infant you should use the Low Weight for Age line***, instead of the Very Low Weight for Age line, which is used for older infants and children.

***Remember that the age of a young infant on the Weight for Age chart is in weeks, instead of months for older infants and children.*** Some young infants who are low weight for age were born with low birthweight. Some did not gain weight well after birth. Low weight infants are particularly likely to have a problem with breastfeeding.

**EXAMPLE: A young infant is 6 weeks old and weighs 3 kg. Here is how the health worker checked if the infant was low weight for age.**



Your facilitator will lead a drill to give you practice reading a weight for age chart for a young infant.

## 1.5.2 Assess Breastfeeding

If the infant has a serious problem requiring urgent referral to a hospital, do not assess breastfeeding. In this situation, classify the feeding based on the information that you have already.

***If an infant has no indications to refer urgently to hospital:***

**ASSESS BREASTFEEDING:**

- Has the infant breastfeeding previous hour?

If the infant has not fed in the previous hour, ask the mother to put her infant to the breast. Observe the breastfeed for 4 minutes.

(If the infant was fed during the last hour, ask the mother if she can wait and tell you when the infant is willing to feed again).

- Is the infant able to attache well?
  not well attached  good attachment

TO CHECK ATTACHMENT, LOOK FOR:
- More areola visible above than below the mouth
- Mouth wide open
- Lower lip turned outward
- Chin touching breast

(All of these signs should be present if the attachment is good.)

- Is the infant suckling effectively (that is, slow deep sucks, sometimes pausing)?
  not suckling effectively  suckling effectively

  Clear a blocked nose if it interferes with breastfeeding.

- Look for ulcers or white patches in the mouth (thrush).

Assessing breastfeeding requires careful observation.

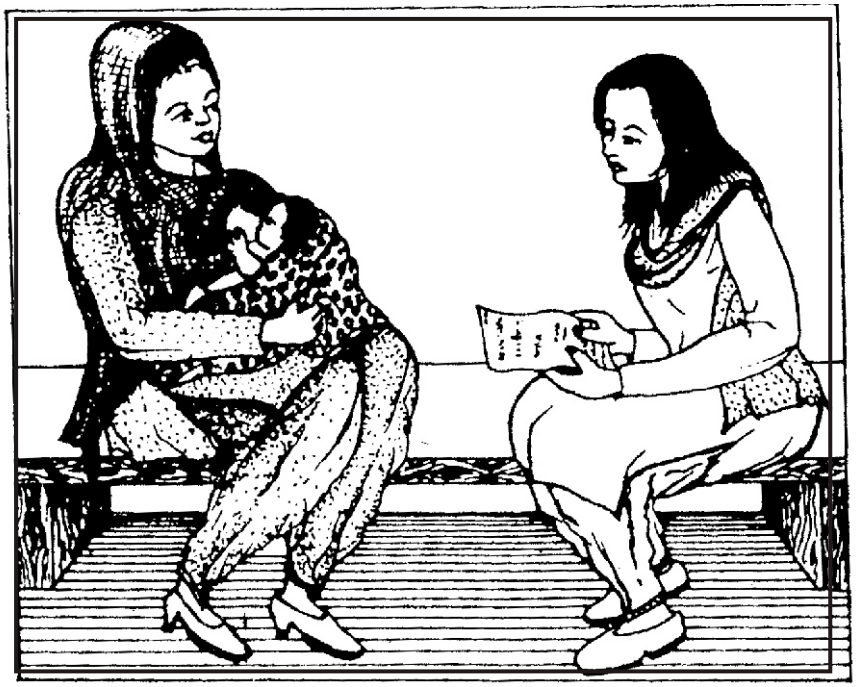
**ASK: Has the infant breastfed in the previous hour?**

If so, ask the mother to wait and tell you when the infant is willing to feed again. In the meantime, complete the assessment by assessing the infant's immunization

status. You may also decide to begin any treatment that the infant needs, such as giving an antibiotic for LOCAL BACTERIAL INFECTION or ORS solution for SOME DEHYDRATION.

If the infant has not fed in the previous hour, he may be willing to breastfeed. Ask the mother to put her infant to the breast. Observe a whole breastfeed if possible, or observe for at least 4 minutes.

Sit quietly and watch the infant breastfeed.



**LOOK: Is the infant able to attach?**

The four signs of good attachment are:

-more areola visible above than below the mouth
-mouth wide open
-lower lip turned outward
-chin touching breast (or very close)

If all of these four signs are present, the infant has ***good attachment.***

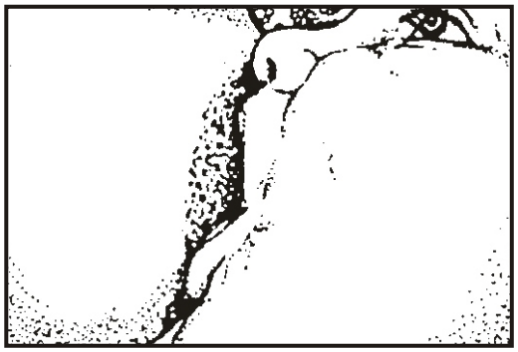
If attachment is not good, you may see:

-more areola (or equal amount) visible below infant's mouth than above it
-mouth not wide open, lips pushed forward

-lower lip turned in, or
-chin not touching breast

If you see any of these signs of poor attachment, the infant is ***not well attached***.
If an infant is not well attached, the results may be pain and damage to the nipples. Or the infant may not remove breastmilk effectively which may cause engorgement of the breast. The infant may be unsatisfied after breastfeeds and want to feed very often or for a very long time. The infant may get too little milk and not gain weight, or the breastmilk may dry up. All these problems may improve if attachment can be improved.

***A baby well attached to his mother's breast***



***A baby poorly attached to his mother's breast***

**LOOK: Is the infant suckling effectively? (that is, slow deep sucks, sometimes pausing)**

The infant is **suckling effectively** if he suckles with slow deep sucks and sometimes pauses. You may see or hear the infant swallowing. If you can observe how the breastfeed finishes, look for signs that the infant is satisfied. If satisfied, the infant releases the breast spontaneously (that is, the mother does not cause the infant to stop breastfeeding in any way). The infant appears relaxed, sleepy, and loses interest in the breast.

An infant is **not suckling effectively** if he is taking only rapid, shallow sucks. You may also see indrawing of the cheeks. You do not see or hear swallowing. The infant is not satisfied at the end of the feed, and may be restless. He may cry or try to suckle again, or continue to breastfeed for a long time.

If a blocked nose seems to interfere with breastfeeding, clear the infant's nose. Then check whether the infant can suckle more effectively.

**LOOK for ulcers or white patches in the mouth (thrush).**

Look inside the mouth at the tongue and inside of the cheek. Thrush looks like milk curds on the inside of the cheek, or a thick white coating of the tongue. Try to wipe the white off. The white patches of thrush will remain.

## EXERCISE C

This exercise is a video case study of a young infant. You will practice assessing and classifying the young infant for very severe disease and local bacterial infection and diarrhoea. Write your assessment results on the recording form on the next page. Then record the infant's classifications.

I.D-No_____

# MANAGEMENT OF THE SICK YOUNG INFANT AGE LESS THEN 2 MONTHS

Name: _____ Age: _____days Present weight:_____ kg Birth weight_____ kg (for baby less then 7 days, if birth weight not know use present weight as birth weight)

Temperature: _____°C _____°F

ASK: What are the infant's problems? _____ Initial visit?____ Follow-up Visit? ____

| | | |
|---|---|---|
| **CHECK FOR VERY SEVERE DISEASE AND LOCAL BACTERIAL INFECTION**<br>• Has the infant had convulsions (fits)?<br>• Is the infant having difficultly in feeding?<br>• Count the breaths in one minute. _____ breaths per minutes.<br>Repeat if elevated the count if elevated _____Fast breathing?<br>• Look for severe chest indrawing.<br>• Look and listen for grunting.<br>• Fever (temperature 37.5 ℃ or above)?<br>• Low body temperature (less than 35.5 ℃)<br>• Look at the young infant's movements.<br>Does the young infant move only when stimulated?<br>Does the young infant not moved even when stimulated?<br>• Look at the umbilicus. Is it red or draining pus?<br>• Look for skin pustules. | | |
| **THEN CHECK FOR JAUNDICE**<br>**ASK: LOOK, LISTEN, FEEL:**<br>Look for jaundice<br>Look at the young infant's palms and soles.<br>Are they yellow? | | |
| **DOES THE YOUNG INFANT HAVE DIARRHOEA?** Yes _____ No _____<br>• Look at the young infant's general condition.<br>Does the infant move only when stimulated?<br>Does the infant not move even when stimulated?<br>Is the infant restless or imitable?<br>• Look for sunken eyes.<br>• Pinch the skin of the abdomen. Does it go back:<br>Very slowly (longer than 2 seconds)?<br>Slowly? | | |

# EXERCISE D

In this exercise you will practice recognizing signs of good and poor attachment during breastfeeding as shown on video and in photographs.

**Part 1 -- Video**

This video will show how to check for a feeding problem and assess breastfeeding. It will show the signs of good and poor attachment and effective and ineffective suckling.

**Part 2 -- Photographs**

1. Study photographs numbered 66 through 70 of young infants at the breast. Look for each of the **signs** of good attachment. Compare your observations about each photograph with the answers in the chart below to help you learn what each sign looks like. Notice the **overall** assessment of attachment.

2. Now study photographs 71 through 74. In each photograph, look for each of the **signs** of good attachment and mark on the chart whether each is present. Also write your overall assessment of attachment.

| Photo | Signs of Good Attachment | | | | Assessment | Comments |
|---|---|---|---|---|---|---|
| | Chin Touching Breast | Mouth Wide Open | Lower Lip Turned Outward | More Areola Showing Above | | |
| 66 | yes (almost) | yes | yes | yes | Good attachment | |
| 67 | no | no | yes | no (equal above and below) | Not well attached | |

| Photo | Signs of Good Attachment | | | | Assessment | Comments |
|---|---|---|---|---|---|---|
| | Chin Touching Breast | Mouth Wide Open | Lower Lip Turned Outward | More Areola Showing Above | | |
| 68 | yes | no | no | yes | Not well attached | Lower lip turned in |
| 69 | no | no | no | no | Not well attached | Cheeks pulled in |
| 70 | yes | yes | yes | cannot see | Good attachment | |
| 71 | | | | | | |
| 72 | | | | | | |
| 73 | | | | | | |
| 74 | | | | | | |

3. Study photographs 75 and 76. These photographs show white patches (thrush) in the mouth of an infant.

When you have finished assessing the photographs, discuss your answers with a facilitator.

## 1.6 CLASSIFY FEEDING PROBLEM OR LOW WEIGHT

Compare the young infant's signs to the signs listed in each row and choose the appropriate classification.

| | | |
|---|---|---|
| • Not well attached to breast or not suckling effectively,<br>OR<br>• Less than 8 breatfeeds in 24 hours,<br>OR<br>• Receive other foods or drinks,<br>OR<br>• Low weight for age,<br>OR<br>• Thrush (Ulcers or white patches in month) | **FEEDING PROBLEM OR LOW WEIGHT** | ► *If not well attached or not suckling effectively, teach correct positioning and attachment.*<br>• *If not able to attach well immediately, teach the mother to express breast milk and feed by a cup.*<br>► *If breastfeeding less than 8 times in 24 hours, advise to increase frequency of feeding. Advise her to breastfeed as often and for as long as the infant wants, day and night.*<br>► *If receiving other foods or drinks, counsel mother about breastfeeding more, reducing other foods or drinks, and using a cup.*<br>• *If not breastfeeding at all:*<br>- *Refer for breastfeeding counseling and possible relactation*<br>- *Advise about correctly preparing breastmilk substitutes and using a cup.*<br>► *Advise the mother how to feed and keep the low weight young infant warm at home.*<br>► *If thrush, teach the mother to treat thrush at home.*<br>► *Advise mother to give home care for the young infant.*<br>► *Fellow-up any feeding problems or thrush in 2 days.* |
| • Not low weight and no other signs of inadequate feeding. | **NO FEEDING PROBLEM** | ► *Advise mother to give home care for the young infant.*<br>► *Praise the mother for feeding the infant well.* |

### FEEDING PROBLEM OR LOW WEIGHT

This classification includes infants who are low weight for age or infants who have some sign that their feeding needs improvement. They are likely to have more than one of these signs.

Advise the mother of any young infant in this classification to breastfeed as often and for as long as the infant wants, day and night. Short breastfeeds are an important reason why an infant may not get enough breastmilk. The infant should breastfeed until he is finished. Advise the mother to give only breastmilk and no other food or drink.

Teach each mother about any specific help her infant needs, such as better positioning and attachment for breastfeeding. If the infant is still not able to attach, teach the mother how to express breastmilk and feed by a cup.

If the infant has low weight, advise the mother how to feed and keep the low weight infant warm at home. If the infant has thrush, teach the mother how to treat thrush at home. Also advise the mother how to give home care for the young infant.

An infant in this classification needs to return to the health worker for follow-up. The health worker will check that the feeding is improving and give additional advice as needed.

**NO FEEDING PROBLEM**

A young infant in this classification is exclusively and frequently breastfed.
"Not low" weight for age means that the infant's weight for age is not below the line for "Low Weight for Age". It is not necessarily normal or good weight for age, but the infant is not in the high risk category that we are most concerned with.

## 1.7 THEN CHECK THE YOUNG INFANT'S IMMUNIZATION STATUS

Check immunization status just as you would for an older infant or young child. Has the young infant received all the immunizations recommended for his age? Does the young infant need any immunization today.

Remember that you should not give OPV 0 to an infant who is more than 14 days old. Therefore, if an infant has not received OPV 0 by the time he is 15 days old, you should wait to give OPV until he is 6-weeks old. Then give OPV-1 together with Pentavlent-1.

As included in the National Immunization schedule, give three doses of Pentavlent Vaccine at 6 weeks, 10 weeks and 14 weeks

As included in the National Immunization schedule, give three doses of Pentavlent Vaccine at 6 weeks, 10 weeks and 14 weeks

If young infant is going to be referred, do not immunize before referral. The staff at the referral site should make the decision about immunizing the infant when the infant is admitted. This will avoid delaying referral.

**THEN CHECK THE YOUNG INFANT'S IMMUNIZATION STATUS:**

| IMMUNIZATION SCHEDULE: | AGE | VACCINE | |
|---|---|---|---|
| | Birth | BCG | OPV-0 |
| | 6 weeks | PENTAVLENT-1 | OPV-1 |

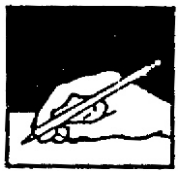
## 1.8 ASSESS OTHER PROBLEMS

Assess any other problems mentioned by the mother or observed by you. Refer to any guidelines on treatment of the problems. If you think the infant has a serious problem, or you do not know how to help the infant, refer the infant to a hospital.

## *Using the Young Infant Recording Form*

Below is the bottom half of a Young Infant Recording Form. This is where you record the assessment and classification of feeding and weight. This may include an assessment of breastfeeding. At the bottom are sections for recording immunizations and any other problems. Study the example below. It has been completed to show the rest of the assessment of the infant Jomli.

| | |
|---|---|
| **THEN CHECK FOR FEEDING PROBLEM OR LOW WEIGHT**<br>• Is the infant breastfed? Yes __✓__ No _____ Determine wight for age. Low _____ Not Low __✓__.<br>• If Yes, how many times in 24 hours?____ Times<br>Does the infnat usually receive any other foods or drinks? Yes __✓__ No _____<br>If Yes, what other? One bottle cow's milk in afternoon, sometimes water also | Feeding problem or low weight |
| **If the infant has no indications to refer urgently to hospital:**<br>ASSESS BREASTFEEDING:<br>• Has the infant breastfeed in the previous hour?<br>If infant has not fed in the previous hour, ask the mother to put her infant to the breast. Observe the breastfeed for 4 minutes.<br>• Is the infant able to attach? To check attachment, look for:<br>- Mouth wide open Yes __✓__ No ___<br>- Lower lip turned outward Yes __✓__ No ___<br>- More areola above than below the mouth Yes __✓__ No ___<br>- Chin touching breast Yes __✓__ No ___<br>• *not well attached* (*good attachment*)<br>Is the infant suckling effectively (that is, slow deep sucks, sometimes pausing)?<br>• *not suckling effectively* (*suckling effectively*)<br>Look for ulcers or white patches in the mouth (thrush). | |
| **CHECK THE YOUNG INFANT'S IMMUNIZATION STATUS:** Circle immunization needed today<br>(BCG) OPV-0<br>PENTAVLENT-1 OPV-1 | Return for next immunization on:<br>In 3 weeks<br>(Date) |
| **ASSESS OTHER PROBLEMS** | |



# EXERCISE E

This exercise will continue the 5 cases begun in Exercise B. Get out the five Young Infant Recording Forms that you used in Exercise B. Refer to the *YOUNG INFANT* chart and the Weight for Age chart as needed.

For each case:

1. Read the description of the rest of the assessment of the infant. Record the additional assessment results on the infant's form.

2. Use the Weight for Age chart to determine if the infant is low weight for age.

3. Classify feeding.

4. Check the infant's immunizations status. Record immunizations needed today and when the infant should return for the next immunization.

**Case 1: Baby of Henna**

Henna says that the baby has not been fed. The health worker uses the Weight for Age chart and determines that the baby's weight (3.0 kg) is not low for his age (0 weeks).

The health worker decides not to assess breastfeeding because the baby has indications for urgent referral. When asked about immunizations, Henri's mother says that he was born at home and had no immunizations.

**Case 2: Sashie**

When asked about feeding, the mother says that Sashie breastfeeds 9 or 10 times in 24 hours and drinks no other fluids. Then the health worker refers to Sashie's

Weight and age recorded at the top of the recording form. He uses the Weight for Age chart to check Sashie's weight for age. The health worker assesses breastfeeding and finds that Sashie is well attached to the breast and is suckling effectively. There are no white patches in the mouth.

Sashie's mother has an immunization card. It shows that she received BCG, OPV 0. When the health worker asks the mother if Sashie has any other problems, she says no.

**Case 3: Ebai**

Ebai's mother says that he breastfeeds 6 or 7 times in 24 hours. She has not given him any other milk or drinks. The health worker checks his weight for age.

The health worker then assesses breastfeeding. His mother says that Ebai is probably hungry now, and puts him to the breast. The health worker observes that more areola is visible above than below the mouth. Ebai's chin touches the breast, his mouth is wide open and his lower lip is turned outward. He is suckling with slow deep sucks, sometimes pausing. His mother continues feeding him until he is finished. The health worker see no ulcers or white patches in his mouth.

Ebai has had no immunizations.

**Case 4: Jenna**

When asked, Jenna's mother says that Jenna breastfeeds 3 times a day. She also takes a bottle of breastmilk substitute 3 times a day. The health worker checks her weight for age.

The health worker then assesses breastfeeding. Jenna has not fed in the previous hour. Her mother agrees to try to breastfeed now. The health worker observes that the same amount of areola is visible above and below the mouth. Jenna's mouth is not very wide open, and her lips are pushed forward. Her chin is not touching the breast. Her sucks are quick and are not deep. When Jenna stops breastfeeding, the health worker looks in her mouth. He sees no ulcers or white patches in her mouth.

Jenna's mother has an immunization card. It shows that Jenna received BCG, OPV 0. Her mother says that she has no other problems.

**Case 5: Neera**

The mother says that there was no difficulty in feeding until Neera got sick, but she has stopped feeding well since yesterday. She breastfed a little last night. She usually breastfeeds 8 times in 24 hours and takes no other drinks. The health worker checks her weight for age.

Since Neera is not able to feed and should be referred urgently, the health worker does not assess breastfeeding. Neera's mother says that she was born at home and has received no immunizations.

When you have completed this exercise, please discuss your answers with a facilitator.

# 2.0 IDENTIFY APPROPRIATE TREATMENT

For each of the young infant's classifications, find the treatments recommended on the *YOUNG INFANT* chart. List them on the recording form.

## 2.1 DETERMINE IF THE YOUNG INFANT NEEDS URGENT REFERRAL

If the infant has VERY SEVERE DISEASE , he needs urgent referral.

If the young infant has SEVERE DEHYDRATION (and does not have VERY SEVERE DISEASE), the infant needs rehydration with IV fluids according to Plan C. If you can give IV therapy, you can treat the infant in the clinic. Otherwise urgently refer the infant for IV therapy. The mother should give frequent sips of ORS on the way and continue breastfeeding.

If a young infant has both SEVERE DEHYDRATION and VERY SEVERE DISEASE, refer the infant urgently to hospital. The mother should give frequent sips of ORS on the way and continue breastfeeding.

## 2.2 IDENTIFY TREATMENTS FOR A YOUNG INFANT WHO DOES NOT NEED URGENT REFERRAL

Identify treatments for each classification by reading the chart. Record treatments, advice to give the mother, and when to return for a follow-up visit.

Follow-up visits are especially important for a young infant. If you find at the follow-up visit that the infant is worse, you will refer the infant to the hospital. A young infant who receives antibiotics for local bacterial infection should return for follow-up in 2 days. A young infant who has diarrhoea with some dehydration or no dehydration should return in two days if not improving. A young infant who has a feeding problem or thrush should return in 2 days. An infant with low weight for age should return for follow-up in 14 days.

## 2.3 IDENTIFY URGENT, PRE-REFERRAL TREATMENT NEEDED

Before urgently referring a young infant to hospital, give all appropriate pre-referral treatments. Urgent pre-referral treatments are in bold print on the chart. Some treatments should not be given before referral because they are not urgently needed and would delay referral. For example, do not teach a mother how to treat a local infection before referral. Do not give immunizations before referral.

## 2.4 GIVE URGENT PRE-REFERRAL TREATMENTS

Below are the urgent pre-referral treatments for a young infant:

- Give first dose of intramuscular antibiotics if the infant has the classification VERY SEVERE DISEASE. (How to give them is described in section 3.2.)

- Give an appropriate oral antibiotic. If the infant needs an oral antibiotic for LOCAL BACTERIAL INFECTION and has not received intramuscular antibiotics, give a first dose of oral antibiotic before referral.

- Treat to prevent low blood sugar as shown in the box below.

> ***Treat the Child to Prevent Low Blood Sugar***
>
> - ***If the young infant is able to breastfeed:***
>
>  Ask the mother to breastfeed the child.
>
> - ***If the young infant is not able to breastfeed but is able to swallow:***
>
>  Give 20 - 50 ml (10 ml/kg) expressed breast milk before departure. Ifnot possible to give expressed breastmilk give 20-50 ml (10 ml/kg) sugar water (**To make sugar water: Dissolve 4 level teaspoons of sugar (20 grams) in a 200-ml cup of clean water.)**
>
> - ***If the young infant is not able to swallow:***
>
>  Give 20-50 ml (10 ml/kg) of expressed breastmilk or sugar water by nasogastric tube.

- Advise the mother how to keep the infant warm on the way to the hospital for all young infants who need referral. Keeping a sick young infant warm is very important.

> ***Teach the Mother How to Keept the Young Infant Warm on the way to the Hospital***
>
> - Provide skin to skin contact OR
> - Keep the young infant clothed or covered as much as possible all the time. Dress the young infant with extra clothing including hat, gloves, socks and wrap the infant in a soft dry cloth and cover with a blanket

- Refer urgently to hospital with mother giving frequent sips of ORS on the way if the young infant has the classification SEVERE DEHYDRATION and VERY SEVERE DISEASE. Advise mother to continue breastfeeding.

## 2.5 REFER THE YOUNG INFANT

Use the same procedures for referring a young infant to hospital as for referring an older infant or young child. Prepare a referral note and explain to the mother the reason you are referring the infant. Teach her anything she needs to do on the way, such as keeping the young infant warm, breastfeeding, and giving sips of ORS.

In addition, explain that young infants are particularly vulnerable. When they are seriously ill, they need hospital care and need to receive it promptly. Many cultures have reasons NOT to take a young infant to hospital. If this is the case, you will have to address these reasons and explain that the infant's illness can best be treated at the hospital.

If the mother is not going to take the infant to hospital, follow the guidelines in Annex XX: When Referral Is Not Possible at the end of this module.

# 3.0 TREAT THE SICK YOUNG INFANT AND COUNSEL THE MOTHER

The treatment instructions for a young infant are on the *YOUNG INFANT* chart. These are all appropriate for young infants and should be used instead of those on the *TREAT THE CHILD* chart. For example, the antibiotics and dosages on the *YOUNG INFANT* chart are appropriate for young infants. Exceptions are the fluid plans for treating diarrhoea and the instructions for preventing low blood sugar located on the *TREAT THE CHILD* chart. Plans A, B, and C and the box "Treat the Child to Prevent Low Blood Sugar" on the *TREAT THE CHILD* chart are used for young infants as well as older infants and young children.

## 3.1 GIVE FIRST DOSE OF INTRAMUSCULAR ANTIBIOTICS

Young infants get two intramuscular antibiotics: intramuscular gentamicin and either intramuscular ampicillin or benzylpenicillin. Young infants with VERY SEVERE DISEASE are often infected with a broader range of bacteria than older infants. The combination of gentamicin and ampicillin/penicillin is effective against this broader range of bacteria.

▶ ***Give First Dose of Intramuscular Antibiotics***

- Give first dose of Ampicillin or benzylpenicillin intramuscularly.
- Give first dose of Gentamicin intramuscularly.

| WEIGHT | AMPICILLIN<br>Dose: 50 mg per kg<br>To a vial of 250 mg<br><br>Add 1.3 ml sterile water = 250 mg / 1.5 ml | BENZYLPENICILLIN<br>Dose: 50.000 mg per kg<br>To a vial of 600 mg (1000000 units)<br><br>Add 1.6 ml sterile water = 500000 units / ml | GENTAMICIN | | |
|---|---|---|---|---|---|
| | | | Undiluted 2 ml vial containing 20 mg = 2 ml at 10 mg/ml | OR | Add 6 ml sterile water to 2 ml vial containing 80 mg* = 8 ml at 10 mg/ml |
| | | | Age < 7 days<br>Dose: 5 mg per kg | | Age > 7 days<br>Dose: 7.5 mg per kg |
| 1 - 1.5 kg | 0.4 ml | 0.2 ml | 0.6 ml | | 0.9 ml |
| 1.5 - 2 kg | 0.5 ml | 0.2 ml | 0.9 ml | | 1.3 ml |
| 2 - 2.5 kg | 0.7 ml | 0.3 ml | 1.1 ml | | 1.7 ml |
| 2.5 - 3 kg | 0.8 ml | 0.5 ml | 1.4 ml | | 2.0 ml |
| 3 - 3.5 kg | 1.0 ml | 0.5 ml | 1.6 ml | | 2.4 ml |
| 3.5 - 4 kg | 1.1 ml | 0.6 ml | 1.9 ml | | 2.8 ml |
| 4 - 4.5 kg | 1.3 ml | 0.7 ml | 2.1 ml | | 3.2 ml |

** Avoid using undiluted 40 mg/ml gentamicin. The dose is 1/4 of that listed.*

- Referral is the best option for a young infant classified with VERY SEVERE DISEASE. If referral is not possible, give ampicillin and gentamicin for at least 5 days. Give ampicillin every 2 times daily to infants less than one week of age and 3 times daily to infants one week or older. Give gentamicin ones daily.

### Using Gentamicin

Read the vial of gentamicin to determine its strength. Check whether it should be used undiluted or should be diluted with sterile water. When ready to use, the strength should be 10 mg/ml. Choose the dose from the row of the table which is closest to the infant's age and weight.

**Using ampicillin**

To a vial of 250 mg ampicillin, add 1.3 ml sterile water. This will give 250 mg per 1.5 ml solution. Choose the dose from the row of the table which is closest to the infant's weight.

**Using Benzylpenicillin**

Read the vial of benzylpenicillin to determine its strength. Benzylpenicillin will need to be mixed with sterile water. Adding 1.6 ml sterile water to a vial of 1 000 000 units in powder will give 500,000 units per ml. Choose the dose from the row of the table which is closest to the infant's weight.

If you have a vial with a different amount of gentamcin, ampcillin or benzylpenicillin or if you use a different amount of sterile water than described here, the dosing table on the *YOUNG INFANT* chart will not be correct. In that situation, carefully follow the manufacturer's directions for adding sterile water and recalculate the doses.

If an infant with VERY SEVERE DISEASE cannot go to a hospital, it is possible to continue treatment using these intramuscular antibiotics. Instructions are in Annex E: Where Referral is Not Possible, in the module *Treat the Child.*

## 3.2 GIVE AN APPROPRIATE ORAL ANTIBIOTIC

Refer to the box on the *YOUNG INFANT* chart for the recommended antibiotic for local bacterial infection. Then determine the dose based on the young infant's weight.

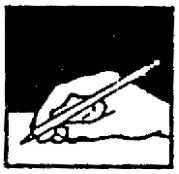
► **Give an Appropriate Oral Antibiotic for local infection**

FIRST-LINE ANTIBIOTIC: **AMOXYCILLIN**
SECOND-LINE ANTIBIOTIC: **CEPHRADINE**

| AGE or WEIGHT | AMOXYCILLIN SYRUP (125 mg / 5 ml) ► Give two times daily for 5 days | CEPHRADINE SYRUP (125 mg / 5 ml) ► Give three times daily for 5 days |
|---|---|---|
| Birth up to 1 month ( <3 kg) | 1.25 ml | 5 ml |
| 1 month up to 2 months (3 - 4 kg) | 2.5 ml | 10 ml |

Follow the steps on the *TREAT THE CHILD* chart for teaching a mother how to give an oral antibiotic at home. That is, teach her how to measure a single dose. Show her how to crush a tablet and mix it with breastmilk. Guide her as needed to give the first dose, and teach her the schedule. Watch the mother and ask checking questions to be sure she knows how to give the antibiotic.

Note: Avoid giving cotrimoxazole to a young infant less than 1 month of age who is premature or jaundiced. Give this infant amoxycillin instead.



# EXERCISE F

In this exercise you will identify all the treatments needed, and specify the appropriate antibiotics and doses for infants. Refer to the *YOUNG INFANT* chart as needed.

Take out the Young Infant Recording Forms that you used in Exercises B and E.

For each case:

1. Review the infant's assessment results and classifications which you have written on the recording form, to remind you of the infant's condition. Note that one of the young infants is unconscious and may not be able to take oral medication and cannot breastfeed. Also note that one of the young infants is premature.

2. Determine whether or not the young infant should be urgently referred. If so, write just the urgent treatments needed. If the infant does not need urgent referral, write all recommended treatments and advice to the mother on the back of the recording form.

3. If the infant needs an antibiotic, also write the name of the antibiotic that should be given and the dose and schedule.

When you have completed this exercise, please discuss
your answers with a facilitator.

## 3.3 TO TREAT DIARRHOEA, SEE *TREAT THE CHILD*

The *YOUNG INFANT* chart refers you to the *TREAT THE CHILD* chart for instructions on treating diarrhoea. You have already learned Plan A to treat diarrhoea at home and Plans B and C to rehydrate an older infant or young child with diarrhoea. However, there are some special points to remember about giving these treatments to a young infant.

Plan A: Treat Diarrhoea at Home

All infants and children who have diarrhoea need extra fluid and continued feeding to prevent dehydration and give nourishment. The best way to give a young infant extra fluid and continue feeding is to breastfeed more often and for longer at each breastfeed. Additional fluids that may be given to a young infant are ORS solution and clean water. If an infant is exclusively breastfed, it is important not to introduce a food-based fluid.

If a young infant will be given ORS solution at home, you will show the mother how much ORS to give the infant after each loose stool. She should first offer a breastfeed, then give the ORS solution. Remind the mother to stop giving ORS solution after the diarrhoea has stopped.

Plan B: Treat Some Dehydration

A young infant who has SOME DEHYDRATION needs ORS solution as described in Plan B. During the first 4 hours of rehydration, encourage the mother to pause to breastfeed the infant whenever the infant wants, then resume giving ORS. Give a young infant who does not breastfeed an additional 100-200 ml clean water during this period.

## 3.4 IMMUNIZE EVERY SICK YOUNG INFANT, AS NEEDED

Administer any immunizations that the young infant needs today. Tell the mother when to bring the infant for the next immunizations.

## 3.5 TEACH THE MOTHER TO TREAT LOCAL INFECTIONS AT HOME

There are three types of local infection in a young infant that a mother can treat at home: an umbilicus which is red or draining pus, skin pustules, or thrush. These local infections are treated in the same way that mouth ulcers are treated in an older infant or young child. Twice each day, the mother cleans the infected area and then applies gentian violet. Half-strength gentian violet must be used in the mouth.

### ▶ *Teach the Mother to Treat Local Infections at Home*

- Explain how the treatment is given.
- Watch her as she does the first treatment in the clinic.
- Tell her to do the treatment twice daily. She should return to the clinic if the infection worsens.

**To Treat Skin Pustules or Umbilical Infection**

The mother should:
- Wash hands
- Gently wash off pus and crusts with soap and water
- Dry the area
- Paint with gentian violet
- Wash hands

**To Treat Thrush (ulcers or white patches in mouth)**

The mother should:
- Wash hands
- Wash mouth with clean soft cloth wrapped around the finger and wet with salt water
- Paint the mouth with half-strength gentain violet (0.25 %)
- Wash hands

Explain and demonstrate the treatment to the mother. Then watch her and guide her as needed while she gives the treatment. She should return for follow-up in 2 days, or sooner if the infection worsens. She should stop using gentian violet after 5 days. Ask her checking questions to be sure that she knows to give the treatment twice daily and when to return.

If the mother will treat skin pustules or umbilical infection, give her a bottle of full strength (0.5%) gentian violet.

If the mother will treat thrush, give her a bottle of half-strength (0.25%) gentian violet.

## 3.6 TEACH CORRECT POSITIONING AND ATTACHMENT FOR BREASTFEEDING

### Reasons for Poor Attachment and Ineffective Suckling

There are several reasons that an infant may be poorly attached or not able to suckle effectively. He may have had bottle feeds, especially in the first few days after delivery. His mother may be inexperienced. She may have had some difficulty and nobody to help or advise her. For example, perhaps the infant was small and weak, the mother's nipples were flat or there was a delay starting to breastfeed.

The infant may be poorly positioned at the breast. Positioning is important because poor positioning often results in poor attachment, especially in younger infants. If the infant is positioned well, the attachment is likely to be good.

Good positioning is recognized by the following signs:
- Infant's neck is straight or bent slightly back,
- Infant's body is turned towards the mother,
- Infant's body is close to the mother, and
- Infant's whole body is supported.

Poor positioning is recognized by any of the following signs:
- Infant's neck is twisted or bent forward,
- Infant's body is turned away from mother,
- Infant's body is not close to mother, or
- Only the infant's head and neck are supported

***Baby's body close, facing breast***

***Baby's body away from mother, neck twisted***

**Improving Positioning and Attachment**

If in your assessment of breastfeeding you found any difficulty with attachment or suckling, help the mother position and attach her infant better. Make sure that the mother is comfortable and relaxed, for example, sitting on a low seat with her back straight. Then follow the steps in the box below.

▶ ***Teach Correct Positioning and Attachment for Breastfeeding***

- Show the mother how to hold her infant
  - with the infant's head and body straight
  - facing her breast, with infant's nose opposite her nipple
  - with infant's body close to her body
  - supporting infant's whole body, not just neck and shoulders.
- Show her how to help the infant to attach. She should:
  - touch her infant's lips with her nipple
  - wait until her infant's mouth is opening wide
  - move her infant quickly onto her breast, aiming the infant's lower lip well below the nipple.
- Look for signs of good attachment and effective suckling. If the attachment or suckling is not good, try again.

Always observe a mother breastfeeding before you help her, so that you understand her situation clearly. Do not rush to make her do something different. If you see that the mother needs help, first say something encouraging, like:

"She really wants your breastmilk, doesn't she?"

Then explain what might help and ask if she would like you to show her. For example, say something like,

"Breastfeeding might be more comfortable for you if your baby took a larger mouthful of breast. Would you like me to show you how?"

If she agrees, you can start to help her.

***Infant ready to attach. Nose is opposite nipple, mouth is open wide.***

As you show the mother how to position and attach the infant, be careful not to take over from her. Explain and demonstrate what you want her to do. Then let the mother position and attach the infant herself.

Then look for signs of good attachment and effective suckling again. If the attachment or suckling is not good, ask the mother to remove the infant from her breast and to try again.

When the infant is suckling well, explain to the mother that it is important to breastfeed long enough at each feed. She should not stop the breastfeeding before the infant wants to.

## 3.7 TEACH THE MOTHER HOW TO EXPRESS BREASTMILK

**Expression of breast milk is usually required for feeding infants who do not suck effectively but are able to swallow effectively (as in the case of low birth weight babies)**. Expressing milk is also useful to relieve engorgement, feed a sick baby who cannot suckle enough, keep up the supply of breastmilk when a mother or baby is ill or to leave breastmilk for a baby when his mother goes out or to work. All health workers who care for breastfeeding mothers and young infants should be able to teach mothers how to express their milk.

Hand expression is the most useful way to express milk. It needs no appliance, so a woman can do it anywhere, at any time.

It is easy to hand express when the breasts are soft. It is more difficult when the breasts are engorged and tender. So teach a mother how to express her milk in the first or second day after delivery. Do not wait until the third day, when her breasts are full.

Many mothers are able to express plenty of breastmilk using different techniques. If a mother's technique works for her, let her continue to do it that way. But if a mother is having difficulty expressing enough milk, teach her a more effective technique.

For expressing breastmilk, choose a cup, glass or jug with a wide mouth. Ask the mother to wash the cup in soap and water. Pour boiling water into the cup, and leave it for a few minutes. Boiling water will kill most of the germs. When ready to express milk, pour the water out of the cup.

*A woman should express her own breastmilk.* The breasts are easily hurt if another person tries. If you are showing a woman how to express, show her on your own body as much as possible, while she copies you. If you prefer not to use your own body, use a model breast, or practise on the soft part of your arm or cheek. If you need to touch her to show her exactly where to press her breast, be very gentle.

A mother should start to express milk on the first day, within six hours of delivery if possible. She may only express a few drops of colostrum at first, but it helps breastmilk production to begin, in the same way that a baby suckling soon after delivery helps breastmilk production to begin. She should express as much as she can as often as her baby would breastfeed. This should be at least every 3 hours, including during the night. If she expresses only a few times, or if there are long intervals between expressions, she may not be able to produce enough milk.

▶ ***Teach the Mother How to Express Breast Milk***

Ask the mother to:

- Wash her hand throughly.
- Make herself conformable.
- Hold a wide necked container under the nipple and areola.
- Place her thumb on top of the breast and the first finger on the under side of the breast so they are opposite each other at least 4 cm from the tip of the nipple).
- Compress and release the breast tissue betwen her finger and thumb a few times.
- If the milk does not appear she should re-position her thumb and finger closer to the nipple and compress and release the breast as before.
- Compress and release all the way around the breast, keeping her fingers the same distance from the nipple. Be careful not to squeeze the nipple or to rub the skin or move her thumb or finger on the skin.
- Express one breast until the milk just drips, then express the other breast until the milk just drips.
- Alternate between breasts 5 or 6 times, for at least 20 to 30 minutes.
- Stop expressing when the milk no longer flows but drips from the start.

## 3.8 TEACH THE MOTHER HOW TO FEED BY A CUP

If a young infant cannot breastfeed, he should be fed expressed breastmilk by a cup. If the mother cannot or has chosen not to breastfeed, the infant should be fed a breastmilk substitute by a cup. Cup feeding is safer than bottle feeding because:

- Cups are easy to clean with soap and water, if boiling is not possible.
- Cups are less likely than bottles to be carried around for a long time, giving bacteria time to breed.
- A cup cannot be left beside a baby, for the baby to feed himself. The person who feeds a baby by cup has to hold the baby and look at him, and give him some of the contact that he needs.
- A cup does not interfere with suckling at the breast.
- A cup enables a baby to control his own intake.

▶ ***Teach the Mother How to Feed by a Cup***

Ask the mother to:

- Put a cloth on the infant's front to protect his clothes as some milk can spill.
- Hold the infant semi-upright on the lap.
- Put a measured amount of milk in the cup.
- Hold the cup so that it rests lightly on the infant's lower lip.
- Tip the cup so that the milk just reaches the infant's lips.
- Allow the infant to take the milk himself. DO NOT pour the milk into the infant's mouth.

Cup feeding is usually better than feeding with a spoon and cup because spoon feeding takes longer than cup feeding and mothers often find it difficult, especially at night. You need three hands to spoon feed: to hold the baby, the cup of milk and the spoon. Some mothers give up spoon feeding before the baby has had enough. Some spoon fed babies do not gain weight well. However, spoon feeding is safe if a mother prefers it, and if she gives the baby enough. Also, if a baby is very ill, for example with difficult breathing, it is sometimes easier to feed him with a spoon for a short time.

If a mother is expressing more than her LBW baby needs, let her express the second half of the milk from each breast into a different container. Let her offer the second half of the EBM first. Her baby gets more hindmilk, which helps him to get the extra energy that he needs. This helps a baby to grow better.

**Counselling about Other Feeding Problems**

* If a mother is breastfeeding her infant less than 8 times in 24 hours, advise her to increase the frequency of breastfeeding. Breastfeed as often and for as long as the infant wants, day and night.

* If the infant receives other foods or drinks, counsel the mother about breastfeeding more, reducing the amount of the other foods or drinks, and if possible, stopping altogether. Advise her to feed the infant any other drinks from a cup, and not from a feeding bottle.

* If the mother does not breastfeed at all, consider referring her for breastfeeding counselling and possible relactation. If the mother is interested, a breastfeeding counsellor may be able to help her to overcome difficulties and begin breastfeeding again.

  Advise a mother who does not breastfeed about choosing and correctly preparing an appropriate breastmilk substitute (see section 3.1 of *Counsel the Mother* module). Also advise her to feed the young infant with a cup, and not from a feeding bottle.

Follow-up any young infant with a feeding problem in 2 days. This is especially important if you are recommending a significant change in the way the infant is fed.

## 3.9 TEACH THE MOTHER HOW TO KEEP THE LOW WEIGHT INFANT WARM AT HOME

It is important to maintain the body temperature of the newborn between 36.5 and 37.4°C. Low temperature in the newborn has an adverse impact on the sick newborn and increases the risk of death. Low birth weight infants need greater attention to thermal care than those infants who do have not low birth weight.

Advise the mother to keep the baby in her bed in a warm room (with the room temperature at least 25℃). Ask her to avoid bathing the low weight infant and to keep the infant dry at all times.

Ask the mother to periodically feel the hands and feet of the infant to make sure that they are warm. Skin-to-skin contact is the best way to re-warm the infant if the hands and feet are cold, and to prevent the infant getting cold if the room is cool. Skin-to-skin contact can be provided by the mother or any adult. The adult body will transfer heat to the newborn.

▶ ***Teach the Mother How to Keep the Low Weight Infant Warm at Home***

- Keep the young infant in the same bed with the mother.
- Keep the room warm (at least 25°C) with home heating device and makes sure that there is no drought of cold air.
- Avoid bathing the low weight infant. When washing or bathing, do it in a very warm room with warm water, dry immediately and thoroughly after bathing and clothe the young infant immediately.
- Change clothes (e.g.nappies) whenever they are wet.
- Provide skin to skin contact as much as possible, day and night. For skin to skin contact.
  - Dress the infant in a warm shirt open at the front, a nappy, hat and socks.
  - Place the infant in skin to skin contract on the mother's chest.
  - Cover the infant with mother's clothes (and an additional warm blanket in cold weather).
- When not in skin to skin contact, keep the young infant clothed or covered as much as possible at all times. Dress the young infant with extra clothing including hat and socks, loosely wrap the young infant in a soft dry cloth and cover with a blanket.
- Check frequently if the hands and feet are warm. If cold, re-warm the baby using skin to skin contact.
- Breastfeed (or expressed breast milk by cup) the infant frequently.

For keeping the baby in skin to skin contact, provide privacy to the mother and request her to sit or recline comfortably. Ask her to undress the young infant gently, except for cap, nappy and socks. Place the young infant prone on mother's chest in an upright and extended posture, between her breasts, in skin to skin contact. Turn young infant's head to one side to keep airways clear. Cover the young infant with mother's blouse or gown and then wrap the baby-mother duo with an added blanket or shawl. Ask the mother to breastfeed the baby frequently.

If skin to skin contact is not possible, dress and wrap the young infant ensuring that head, hands and feet are also well covered. Hold the young infant close to the caregiver's body, in a room warmed by a heating device. Ask the mother to breastfeed the baby frequently.

# EXERCISE G

**Part 1 - Video**

You will watch a video demonstration of the steps to help a mother improve her baby's positioning and attachment for breastfeeding.

**Part 2 - Photographs**

In this exercise you will study photographs to practice recognizing signs of good or poor positioning and attachment for breastfeeding. When everyone is ready, there will be a group discussion of each of the photographs. You will discuss what the health worker could do to help the mother improve the positioning and attachment for breastfeeding.

1. Study photographs numbered 77 through 79 of young infants at the breast. Look for each of the signs of good positioning. Compare your observations about each photograph with the answers in the chart below to help you learn what good or poor positioning looks like.

2. Now study photographs 80 through 82. In these photographs, look for each of the signs of good positioning and mark on the chart whether each is present. Also decide if the attachment is good.

| Photo | Signs of Good Positioning | | | | Comments on Attachment |
|---|---|---|---|---|---|
| | Infant's Head and Body Straight | Head and Body Facing Breast | Infant's Body Close to Mother's | Supporting Infant's Whole Body | |
| 77 | yes | yes | yes | yes | |
| 78 | yes | yes | yes | yes | |

| Photo | Signs of Good Positioning | | | | Comments on Attachment |
|---|---|---|---|---|---|
| | Infant's Head and Body Straight | Head and Body Facing Breast | Infant's Body Close to Mother's | Supporting Infant's Whole Body | |
| 79 | no - neck turned so not straight with body | no | no - turned away from mother's body | no | Not well attached: mouth not wide open, lower lip not turned out, areola equal above and below |
| 80 | | | | | |
| 81 | | | | | |
| 82 | | | | | |

Tell a facilitator when you have completed this exercise.
When everyone is ready, there will be a group discussion.

## 3.10 ADVISE MOTHER TO GIVE HOME CARE FOR THE YOUNG INFANT

These are basic home care steps for ALL sick young infants. Teach each mother these steps.

▶ ***Advise Mother to Give Home Care for the Young Infant***

- EXCLUSIVELY BREATFEED THE YOUNG INFANT.
  Give only breastfeeds to the young infant.
  Breastfeed frequently, as often and for as long as the infant wants, day or night, during sickness and health.
- MAKE SURE THE YOUNG INFANT STAYS WARN AT ALL TIMES.
  In cool weather cover the infant's head and feed and dress the infant with extra clothing.
- WHEN TO RETURNED
  ***Follow-up Visit***

| If the infant has: | Return for follow-up in: |
|---|---|
| LOCAL BACTERIAL INFECTION<br>DIARRHOEA<br>ANY FEEDING PROBLEM<br>THRUSH | 2 days |
| LOW WEIGHT FOR AGE<br>LOW BIRTH WEIGHT | 14 days |

***When to Return Immediately:***

| Advise the mother to return immediately if the young infant has any of these signs: |
|---|
| Breastfeeding or drinking poorly<br>Becomes sicker<br>Develops a fever<br>Fast breathing<br>Difficult breathing<br>Depressed breathing |

### FOOD AND FLUIDS:

Frequent and exclusive breastfeeding will give the infant nourishment and help prevent dehydration and infections.

### MAKE SURE THE YOUNG INFANT STAYS WARM AT ALL TIMES:

Keeping a young infant warm (but not too warm) is very important at all times, but especially when the infant is sick. Low temperature alone can kill young infants.

### WHEN TO RETURN:

Tell the mother when to return for a ***follow-up visit***.

Also teach the mother ***when to return immediately***. The signs mentioned above are particularly important signs to watch for. Teach the mother these signs. Use the mother's card to explain the signs and help her to remember them. Ask her checking questions to be sure she knows when to return immediately.

# EXERCISE H

In this exercise you will review the steps of some treatments for sick young infants.

Get out the Young Infant Recording Forms which you completed in Exercise E for Case 2 - Sashie and Case 4 - Jenna. Refer to the *YOUNG INFANT* chart as needed.

For each case:

1. Review the infant's assessment findings, classifications, and treatments needed.

2. Answer the additional questions below about treating each case.

**Case 2: Sashie**

1. In addition to treatment with antibiotics, Sashie needs treatment at home for her local infection, that is, the pustules on her buttocks. List below the steps that her mother should take to treat the skin pustules at home.

   *

   *

   *

   *

   *

2. How often should her mother treat the skin pustules?

3. Sashie also needs "home care for the young infant." What are the 3 main points to advise the mother about home care?

   *

   *

   *

4. What would you tell Sashie's mother about when to return?

**Case 4: Jenna**

1. In addition to treatment with antibiotics, Jenna needs treatment for SOME DEHYDRATION according to Plan B. How much ORS should Jenna be given for the first 4 hours of treatment?

   Should she receive any other fluids during the 4-hour period? If so, what fluids?

2. While giving ORS, the several mothers in the ORT corner were taught how to mix ORS. After 4 hours of treatment, Jenna is reassessed. She is calm. A skin pinch goes back immediately. The health worker classifies her as having NO DEHYDRATION and selects Plan A to continue her treatment.

The health worker tells the mother that during diarrhoea, Jenna will need extra fluids. She explains that the best way to give an infant extra fluids is to breastfeed frequently and for longer at each feed. The health worker also gives her mother 2 packets of ORS to give to Jenna at home.

What else should the health worker tell the mother about giving ORS at home?

3. During the 4 hours in the ORT corner, the health worker was also able to help Jenna's mother to position and attach her better for breastfeeding. What other feeding advice should the health worker give?

When you have completed this exercise, please discuss your answers with a facilitator.

Your facilitator will lead a drill to review points of advise for mothers of young infants.

## 4.0 GIVE FOLLOW-UP CARE FOR THE SICK YOUNG INFANT

Follow-up visits are recommended for young infants who are classified as LOCAL BACTERIAL INFECTION, DIARRHOEA, FEEDING PROBLEM OR LOW WEIGHT (including thrush). Instructions for carrying out follow-up visits for the sick young infant age up to 2 months are on the *YOUNG INFANT* chart.

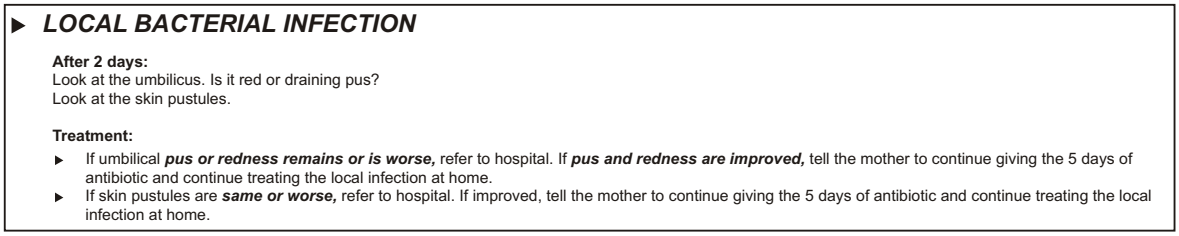
As with the sick child who comes for follow-up, a sick young infant is assessed differently at a follow-up visit than at an initial visit. Once you know that the young infant has been brought to the clinic for follow-up, ask whether there are any **new** problems. Also, assess every young infant for signs of VERY SEVERE DISEASE. 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 VERY SEVERE DISEASE or 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.

## 4.1 LOCAL BACTERIAL INFECTION

When a young infant classified as having LOCAL BACTERIAL INFECTION returns for follow-up in 2 days, follow these instructions:



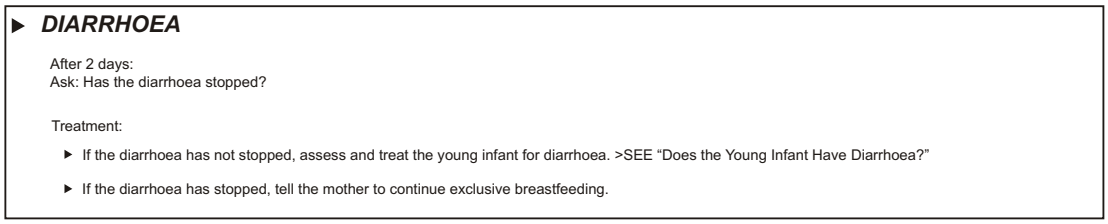

To assess the young infant, look at the umbilicus or skin pustules. Then select the appropriate treatment.

- If umbilical **pus or redness remains same or is worse**, refer the infant to hospital. Also refer if there skin pustules are same or worse than before.

Ø If umbilical **pus and redness are improved**, tell the mother to complete the 5 days of antibiotic that she was given during the initial visit. Improved means there is less pus and redness has reduced. Similarly, if skin pustules have improved, which means they are less in number and are drying up, tell the mother to continue giving the antibiotic. Emphasize that it is important to continue giving the antibiotic even when the infant is improving. She should also continue treating the local infection at home for 5 days (cleaning and applying gentian violet to the skin pustules or umbilicus).

## 4.2 DIARRHOEA

When the young infant classified as having DIARRHOEA returns for follow-up in two days, follow these instructions :




If the diarrhoea has stopped, tell the mother to continue exclusive breastfeeding

If the diarrhoea has not stopped, reassess the young infant for diarrhoea as described in the assessment box, "Does the young infant have diarrhoea?" Also, ask the mother the additional questions listed to determine whether the infant is improving.

Ø If the infant is **dehydrated**, use the classification table on the *YOUNG INFANT* chart to classify the dehydration and select a fluid plan.

Ø If the signs are the same or worse, refer the infant to hospital. If the young infant has developed fever, give intramuscular antibiotics before referral, as for VERY SEVERE DISEASE.

Ø If the infant's signs are improving, tell the mother to continue giving the infant the fluids and breastfeeding according to plan A.

## 4.3 FEEDING PROBLEM

When a young infant who had a feeding problem returns for follow-up in 2 days, follow these instructions:

> ▶ ***FEEDING PROBLEM***
>
> After 2 days:
> Reassess feeding. > See "Then Check for Feeding Problem or low birth weight" above.
> Ask about any feeding problems found on the initial visit.
>
> ▶ Counsel the mother about any new or continuing feeding problems. 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 low weight for age, ask the mother to return 14 days after the initial visit to measure the young infant's weight gain.
>
> ***Exception:***
> if you do not think that feeding will improve, or if the young infant has ***lost weight,*** refer the child.

Reassess the feeding by asking the questions in the young infant assessment box, "Then Check for Feeding Problem or Low Weight." 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.

Ø 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 an 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.

Ø 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.

## 4.4 LOW WEIGHT

When a young infant who was classified as LOW WEIGHT returns for follow-up in 14 days, follow these instructions:

▶ ***LOW WEIGHT***

After 14 days:
Weigh the young infant and determine if the infant is still low weight for age.
Reassess feeding. > See "Then Check for Feeding Problem or low weight" above.

- If the infant is ***no longer low weight for age,*** praise the mother and encourage her to continue.
- If the infant is ***still low weight for age, 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 low weight for age 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 low weight for age.

***Exception:***
if you do not think that feeding will improve, or if the young infant has ***lost weight,*** refer to hospital.

Determine if the young infant is still low weight for age. Also reassess his feeding by asking the questions in the assessment box, "Then Check for Feeding Problem or Low Weight." Assess breastfeeding if the young infant is breastfed.

Ø If the young infant is **no longer low weight for age**, praise the mother for feeding the infant well. Encourage her to continue feeding the infant as she has been or with any additional improvements you have suggested.

Ø If the young infant is **still low weight for age, but is feeding well**, praise the mother. Ask her to have her infant weighed again within a month or when she returns for immunization. You will want to check that the infant continues to feed well and continues gaining weight. Many young infants who were low birth weight will still be low weight for age, but will be feeding and gaining weight well.

Ø If the young infant is **still low weight for age and still has a feeding problem**, counsel the mother about the problem. Ask the mother to return with her infant again in 14 days. Continue to see the young infant every few weeks until you are sure he is feeding well and gaining weight regularly or is no longer low weight for age.

## 4.5 THRUSH

When a young infant who had thrush returns for follow-up in 2 days, follow these instructions:

▶ ***THRUSH***

After 2 days:
Look for ulcers or white patches in the mouth (thrush).
Reassess feeding. > See "Then Check for Feeding Problem or low weight" above.

- 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 half-strength gentian violet for a total of 5 days.

Check the thrush and reassess the infant's feeding.

If the **thrush is worse** or the infant has **problems with attachment or suckling**, refer to hospital. It is very important that the infant be treated so that he can resume good feeding as soon as possible.

If the **thrush is the same or better** and the infant is **feeding well**, continue the treatment with half-strength gentian violet. Stop using gentian violet after 5 days.

# EXERCISE I

Read about each young infant who came for follow-up and answer the questions. Refer to the *YOUNG INFANT* chart as needed.

| Local bacterial infections are treated with Amoxicillin. |
|---|

1. Sashie is 1 weeks old. The health worker classified her as having LOCAL BACTERIAL INFECTION because she had some skin pustules on her buttocks. Her mother got syrup Amoxicillin to give at home, and learned how to clean the skin and apply gentian violet at home. She has returned for a follow-up visit after 2 days. Sashie has no new problems.

   a) How would you reassess Sashie?

   When you look at the skin of her buttocks, you see that there are fewer pustules and less redness.

   b) What treatment does Sashie need now?

2. Afiya, a 5-week-old infant, was brought to the clinic 2 days ago. During that visit he was classified with a FEEDING PROBLEM because he was not able to attach well to the breast. He weighed 3.25 kg (not low weight for age). He was breastfeeding 5 times a day. He also had white patches of thrush in his mouth. Afiya's mother was taught how to position her infant for breastfeeding and how to help him attach to the breast. She was advised to increase the frequency of feeding to at least 8 times per 24 hours and to breastfeed as often as the infant wants, day and night. She was taught to treat thrush at home. She was also asked to return for follow-up in 2 days. Today, Afiya's mother has come to see you for follow-up. She tells you that the infant has no new problems.

a) How would you reassess this infant?

Afiya's weight today is 3.35 kg. When you reassess the infant's feeding, the mother tells you that he is feeding easily. She is now breastfeeding Afiya at least 8 times a day, and sometimes more when he wants. He is not receiving other foods or drinks. You ask the mother to put Afiya to the breast. When you check the attachment, you note that the infant's chin is touching the breast. The mouth is wide open with the lower lip turned outward. There is more areola visible above than below the mouth. The infant is suckling effectively. You look in his mouth. You cannot see white patches now.

b) How will you treat this infant?

When you have completed this exercise, discuss your work with a facilitator.

# ANNEX

## RECORDING FORM:

### Management of the Sick Young Infant Age 1 Week up to 2 Months

I.D-No_____

# MANAGEMENT OF THE SICK YOUNG INFANT AGE LESS THEN 2 MONTHS

Name: _____ Age: _____days Present weight:_____ kg Birth weight_____ kg (for baby less then 7 days, if birth weight not know use present weight as birth weight)

Temperature: _____°C _____°F

ASK: What are the infant's problems? _____ Initial visit?____Follow-up Visit? ___

| | | |
|---|---|---|
| **CHECK FOR VERY SEVERE DISEASE AND LOCAL BACTERIAL INFECTION**<br>• Has the infant had convulsions (fits)?<br>• Is the infant having difficultly in feeding?<br>• Count the breaths in one minute. _____ breaths per minutes.<br>Repeat if elevated the count if elevated _____Fast breathing?<br>• Look for severe chest indrawing.<br>• Look and listen for grunting.<br>• Fever (temperature 37.5 ℃ or above)?<br>• Low body temperature (less than 35.5 ℃)<br>• Look at the young infant's movements.<br>Does the young infant move only when stimulated?<br>Does the young infant not moved even when stimulated?<br>• Look at the umbilicus. Is it red or draining pus?<br>• Look for skin pustules. | | |
| **THEN CHECK FOR JAUNDICE**<br>**ASK: LOOK, LISTEN, FEEL:**<br>Look for jaundice<br>Look at the young infant's palms and soles.<br>Are they yellow? | | |
| **DOES THE YOUNG INFANT HAVE DIARRHOEA?** Yes _____ No _____<br>• Look at the young infant's general condition.<br>Does the infant move only when stimulated?<br>Does the infant not move even when stimulated?<br>Is the infant restless or imitable?<br>• Look for sunken eyes.<br>• Pinch the skin of the abdomen. Does it go back:<br>Very slowly (longer than 2 seconds)?<br>Slowly? | | |

| **ASSESS** (Circle all signs present) | **CLASSIFY** | **TREAT** |
|---|---|---|
| **THEN CHECK FOR FEEDING PROBLEM OR LOW WEIGHT**<br>• Is the infant breastfed? Yes _____ No _____<br>• If Yes, how many times in 24 hours?____ Times<br><br>Does the infnat usually receive any other foods or drinks? Yes _____ No _____<br>If Yes, how often?<br><br>Determine wight for age. Low _____ Not Low _____.<br><br>**If the infant has no indications to refer urgently to hospital:**<br>ASSESS BREASTFEEDING:<br>• Has the infant breastfeed in the previous hour?<br><br>If infant has not fed in the previous hour, ask the mother to put her infant to the breast. Observe the breastfeed for 4 minutes.<br><br>• Is the infant able to attach? To check attachment, look for:<br>- Mouth wide open Yes ___ No ___<br>- Lower lip turned outward Yes ___ No ___<br>- More areola above than below the mouth Yes ___ No ___<br>- Chin touching breast Yes ___ No ___<br><br>• *not well attached* *good attachment*<br><br>Is the infant suckling effectively (that is, slow deep sucks, sometimes pausing)?<br><br>• *not suckling effectively* *suckling effectively*<br><br>Look for ulcers or white patches in the mouth (thrush). | | |
| **CHECK THE YOUNG INFANT'S IMMUNIZATION STATUS:** Circle immunization needed today<br><br>BCG OPV-0<br>PENTAVLENT-1 OPV-1 | Return for next immunization on:<br>_____<br>(Date) | immunization to given today<br>_____ |
| **ASSESS OTHER PROBLEMS** | | |

**Advice mother when to return immediately**
**Return for follow-up in ..... days**

*ANNEX 2*

*ADDITIONAL CONDITIONS THA T CAN BE INCLUDED DURING IMCI ADAPT ATION*

Two conditions can potentially be included in the IMCI young infant chart - jaundice and eye infections. These conditions are not a common cause of neonatal death, but are very common. A few young infants who have SEVERE JAUNDICE and POSSIBLE GONOCOCCAL EYE INFECTION and are not managed appropriately can have serious long-term disabilities.

# *EYE INFECTIONS*

Eye infections are common in young infants. If the mother has a gonococcal infection, the young infant can develop a serious eye infection during the first 1-2 weeks of life which can cause blindness.

## ASSESS, CLASSIFY AND TREAT FOR EYE INFECTIONS

Look at the eyes of all sick young infants to assess if they are draining pus and if they are swollen.

| ***ASK:*** | ***LOOK, LISTEN, FEEL:*** |
|---|---|
| | • Look at the young infant's eyes.<br>Are eyes draining pus?<br>Are eyes swollen and draining large amounts of pus? |

| | | |
|---|---|---|
| • Eyes swollen and draining large amounts of pus. | **POSSIBLE GONOCOCCAL EYE INFECTION** | ▶ ***Give first dose of intramuscular antibiotics.***<br>▶ ***Apply first dose of tetracycline eye ointment.***<br>▶ ***Treat to prevent low blood sugar.***<br>▶ ***Refer URGENTLY to hospital.***<br>▶ ***Advise mother how to keep the young infant warm on the way to the hospital.*** |
| • Eyes draining some pus but are not swollen. | **EYE INFECTION** | ▶ Teach the mother to treat eye infection at home.<br>▶ Advise mother to give home care for the young infant. |
| • Eyes not swollen and not draining pus. | **NO EYE INFECTION** | ▶ Advise the mother to give home care for the young infant. |

If the eyes are swollen and draining large amounts of pus, classify as POSSIBLE GONOCOCCAL INFECTION. These young infants have a serious infection and should be urgently referred to a hospital. Pre-referral treatment is the same as for VERY SEVERE DISEASE. An additional pre-referral treatment is applying tetracycline eye ointment before referral.

Classify young infants with some pus discharge from the eye as having EYE INFECTION. Teach the mother to treat the eye infection and advise her to give home care.

▸ ***Treat Eye Infection with Tetracyclline Eye Ointment***

▸ Clean both eyes 4 times daily.
Wash hands.
Use clear cloth and water to gently wipe away pus.

▸ Then apply tetracycline eye ointment in both eyes 4 times.
Squirt a small amount of ointment on the inside of the lower lid.
Wash hands again.

▸ Treat until there is no pus discharge.

▸ Do not put anything else in the eye.

**FOLLOW UP**

At the follow-up visit in 2 days, check if the eye infection has worsened, is the same or has improved. Refer to a hospital is the eye infection has worsened. If there is no improvement, check if the mother has been treating the eye infection appropriately. Teach

▸ ***EYE INFECTION***

After 2 days

Look for pus draining from the eyes.

▸ If there is wors of the eye infection (eyes swollen or more pus than before), refer urgently to a hospital.

▸ If pus is still draining from the eyes, ask the mother to describe how she has treated the eye infection. If treatment has not been correct, teach the mother the correct treatment. Ask the mother to continue treatment and return for follow up in 2 days.

▸ If pus discharge from the eyes persists after 5 days of starting treatment, refer to hospital for futher assessment.

▸ If no pus, stop treatment.

the mother to treat the eye infection and follow up again in 2 days. If eyes continue to drain pus at the second follow up visit, refer to a hospital for further assessment.

# ANNEX 3

## WHERE REFERRAL IS NOT POSSIBLE

The best possible treatment for a young infant with a very severe illness is usually at a hospital.

Sometimes referral is not possible or not advisable. Distances to a hospital might be too far; the hospital might not have adequate equipment or staff to care for the child; transportation might not be available. Sometimes parents refuse to take a child to a hospital, in spite of the health worker's effort to explain the need for it.

If referral is not possible, you should do whatever you can to help the family care for the child. To help reduce deaths in severely ill children who cannot be referred, you may need to arrange to have the child stay in or near the clinic where he may be seen several times a day. If not possible, arrange for visits at home.

This annex describes treatment to be given for specific severe disease classifications when the very sick young infant cannot be referred.

Although only a well-equipped hospital with trained staff can provide optimal care for a young infant with a very severe illness, following these guidelines may reduce mortality in high risk children where referral is not possible.

### *Essential Care for VERY SEVERE DISEASE*

This young infant may have pneumonia, sepsis or meningitis, or may have complications of preterm birth or asphyxia.

**1. GIVE IM AMPICILLIN AND IM GENTAMICIN**

If meningitis is suspected (based on presence of convulsions or unconsciousness), treat for a total of 14 days.

If meningitis is not suspected, treat for at least 5 days. Continue the treatment until the infant has been well for at least 3 days.

Give IM ampicillin two times daily if the young infant is less than one week of age, and 3 times daily if he is one week or older. The doses of IM ampicillin for different weights is shown in the table "Give First Dose of Intramuscular Antibiotics" (see below).

Give IM gentamicin once daily. Note that the dose depends on the age and weight of the young infant, as shown in the table "Give First Dose of Intramuscular Antibiotics" (see below). Use different syringes for ampicillin and gentamicin. Ampicillin and gentamicin should not be mixed in the same syringe.

If it is not possible to give IM ampicillin 2-3 times a day, give oral amoxycillin if the young infant is able to accept orally.

Substitute IM ampicillin with oral amoxycillin when the infant's condition has improved substantially. Continue to give IM gentamicin until the minimum treatment has been given.

▶ ***Give First Dose of Intramuscular Antibiotics***

- Give first dose of Ampicillin or benzylpenicillin intramuscularly.
- Give first dose of Gentamicin intramuscularly.

| WEIGHT | AMPICILLIN<br>Dose: 50 mg per kg<br>To a vial of 250 mg<br>Add 1.3 ml sterile water = 250 mg / 1.5 ml | BENZYLPENICILLIN<br>Dose: 50.000 mg per kg<br>To a vial of 600 mg (1000000 units)<br>Add 1.6 ml sterile water = 500000 units / ml | GENTAMICIN | | |
|---|---|---|---|---|---|
| | | | Undiluted 2 ml vial containing 20 mg = 2 ml at 10 mg/ml | OR | Add 6 ml sterile water to 2 ml vial containing 80 mg* = 8 ml at 10 mg/ml |
| | | | Age < 7 days<br>Dose: 5 mg per kg | | Age > 7 days<br>Dose: 7.5 mg per kg |
| 1 - 1.5 kg | 0.4 ml | 0.2 ml | 0.6 ml | | 0.9 ml |
| 1.5 - 2 kg | 0.5 ml | 0.2 ml | 0.9 ml | | 1.3 ml |
| 2 - 2.5 kg | 0.7 ml | 0.3 ml | 1.1 ml | | 1.7 ml |
| 2.5 - 3 kg | 0.8 ml | 0.5 ml | 1.4 ml | | 2.0 ml |
| 3 - 3.5 kg | 1.0 ml | 0.5 ml | 1.6 ml | | 2.4 ml |
| 3.5 - 4 kg | 1.1 ml | 0.6 ml | 1.9 ml | | 2.8 ml |
| 4 - 4.5 kg | 1.3 ml | 0.7 ml | 2.1 ml | | 3.2 ml |

** Avoid using undiluted 40 mg/ml gentamicin. The dose is 1/4 of that listed.*

- Referral is the best option for a young infant classified with VERY SEVERE DISEASE. If referral is not possible, give ampicillin and gentamicin for at least 5 days. Give ampicillin every 2 times daily to infants less than one week of age and 3 times daily to infants one week or older. Give gentamicin ones daily.

2. Keep the Young Infant Warm as you have already learnt in this module

3. Manage Fluids Carefully

The mother should breastfeed the infant frequently.

If the infant has difficulty breathing or is too sick to suckle, help the mother express breastmilk. Feed the expressed breastmilk to the infant by a cup (if

able to swallow) or by naso-gastric (NG) tube 8 times per day. If the infant is older than 4 days of age, give 15 ml of breastmilk per kilogram of body weight at each feed. Give lower amounts during the first three days of life as shown in the table below.

| | Day 1 | Day 2 | Day 3 | Day 4 onwards |
|---|---|---|---|---|
| Recommended fluid/feed intake (ml/kg/feed) if given 8 feeds per day | 7.5 | 10 | 12.5 | 15 |

If the mother is not able to express breastmilk, prepare a breastmilk substitute or give diluted cow's milk with added sugar, and give the same amounts as above.

**4. Treat the Child to Prevent Low Blood Sugar** as you have already learnt in this module.