# INTEGRATED MANAGEMENT OF NEONATAL& CHILDHOOD ILLNESS

# MODULE 4:
# MANAGEMENT OF THE SICK YOUNG INFANT AGE UP TO 2 MONTHS

World Health Organization

unicef

Ministry of National Health Services,
Regulation and Coordination (MoNHSR&C)

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# INTRODUCTION

In this module you will learn to manage a sick young infant, defined as an infant up to 2 months of age. This includes the neonatal period, which is the first 4 weeks of life. 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 in the chart booklet, Management of the Sick Young Infant Age up to 2 Months:

Assess

Classify

Treat

Counsel the mother

Follow-up

Young infants have special characteristics that must be considered when assessing and classifying their illness. In the first few days of life, new-born infants are often sick from conditions related to pregnancy, labor and delivery or they may have trouble breathing due to immature lungs. These conditions include birth asphyxia, birth trauma, preterm birth and early-onset infections such as sepsis from premature ruptured membranes. 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 non-specific signs such as difficulty in feeding, reduced movements, fever or low body temperature. Lower chest indrawing is another clinical sign that is different in young infants. 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 charts list the special signs to assess and classify young infants and instructions on treatment. You will use these charts for sick young infants, including new-borns, from birth up to 2 months of age.

Skilled care provided to the mother during labor and delivery and to the new-born immediately after birth can prevent many complications. It is therefore recommended that all births should be attended by health workers skilled in delivery and immediate new-born care. Guidance on care during delivery and immediate new-born care is not included in the IMNCI chart. It is available in the *WHO Pregnancy, Childbirth, Postpartum and New-born Care: A guide for essential practice*[1]

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

[1] http://www.who.int/making_pregnancy_safer/publications/PCPNC_2006_03b.pdf

Then you will check **all** young infants for possible serious bacterial infection or very severe disease, pneumonia and local 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 multicenter research study. They can detect severe disease in the young infant, including potentially serious conditions related to labor and delivery which are common in the first week of life as well as severe bacterial infections.

Then you will check **all** young infants for the presence of jaundice. You will assess and classify **all** young infants for feeding problem or low weight for age. You will also check the infants' immunization status and assess diarrhea and other problems mentioned by the mother.

## 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 possible serious bacterial infection (PSBI) or very severe disease, pneumonia, and local infection
- Assessing and classifying for jaundice
- Assessing and classifying a young infant with diarrhoea
- Checking for a feeding problem or low weight for age, assessing breastfeeding and classifying feeding
- Determining if a sick young infant needs urgent referral or can be treated in the clinic and/or at home
- Providing pre-referral treatment to a young infant with very severe disease
- Where referral is refused or not possible, further assessing and classifying the young infant and determining appropriate treatment
- Preparing and giving an injection of gentamicin
- Treating a young infant with oral antibiotics
- Teaching the mother to treat local infections and thrush at home
- Giving extra fluid for diarrhoea and continued feeding
- Teaching correct positioning and attachment for breastfeeding
- Teaching the mother how to express breastmilk
- 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
- Giving follow-up care for the sick 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* charts describe what you should do when a mother brings her young infant to the clinic because the infant is sick.

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 toward the end of the *YOUNG INFANT* chart booklet.

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 possible serious bacterial infection or very severe disease, pneumonia, and local infection. Then classify the young infant based on the signs found.
* Check for the presence of jaundice and classify for jaundice.
* 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 for age. There are different charts for breastfed infants and for infants receiving no breastmilk. This includes checking for low weight for age and for thrush. 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 may continue and complete the assessment of illness quickly. However, skip the assessment of breastfeeding or other feeding and checking immunization status for this infant because these can take some time.

## 1.1 CHECK THE YOUNG INFANT FOR POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE, PNEUMONIA AND LOCAL INFECTION

Young infants with possible serious bacterial infection (PSBI) are very sick and need urgent referral. Thus ***every*** sick young infant needs to be assessed carefully. In this assessment you are looking for signs of severe disease. 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.

The steps to assess the young infant are shown on the assess and classify Chart (0-2 months), as shown below.

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 two signs,

that is, count breathing and look for severe lower chest indrawing. 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.

How to assess each sign is described below:

**PLEASE OPEN YOUR CHART BOOKLET ON PAGE 30**

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

Ask the mother if the infant is feeding well. Any difficulty mentioned by the mother is important. A new-born 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 stopped feeding well, or an infant who is not feeding at all has very severe disease. You will be able to confirm how the infant breastfeeds later in the assessment when you ask the mother to put the infant to the breast.

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

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 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.

**LOOK: Count the breaths in one minute. Repeat the count if 60 or more breaths per minute.**

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 cut-off 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.

**FEEL: Measure axillary temperature.**

The thresholds in the YOUNG INFANT chart are based on axillary temperature. Fever (axillary temperature of 38□C or above) is uncommon in the first two months of life. If a young infant has fever, this may mean the infant has possible serious bacterial infection. 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 35.5□C (axillary temperature). Low body temperature is called hypothermia.

If you find that the temperature is 38□C or above or is below 35.5□C, repeat the measurement after 30 minutes. In the meantime, remove clothing and let the baby who has fever cool. If the baby has hypothermia in winter, wrap the baby to warm him/her for 30 minutes. Use the second reading to decide if the infant has fever or low temperature.

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

The umbilical cord usually separates one week after birth and the 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.

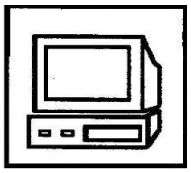
**LOOK for skin pustules. Are there pustules?**

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 on his/her own? Does the infant move only when stimulated but then stops? Does the infant not move at all?**

Young infants often sleep most of the time, and this is not a sign of illness. Observe the infant's movements while you do the assessment. 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. 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 at all, it is a sign of possible serious bacterial infection or very severe disease. An infant who cannot be woken up even after stimulation also should also be considered to have this sign.

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 possible serious bacterial infection or very severe disease and show examples of the signs.

### Part 2 – Photographs

Study the photographs numbered 60–62 in the booklet and read the explanation below for each photo.

Photograph 60: Normal umbilicus in a new-born
Photograph 61: A red umbilicus
Photograph 62: Skin pustules

Then study the photographs numbered 63–65. Tick your assessment of the umbilicus of each of these young infants.

| UMBILICUS | Normal | Redness or draining pus | Redness extending to the skin of abdomen |
|---|---|---|---|
| Photograph 63 | | | |
| Photograph 64 | | | |
| Photograph 65 | | | |

## 1.2 CLASSIFY ALL SICK YOUNG INFANTS FOR POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE, PNEUMONIA, AND LOCAL INFECTION

To classify all sick young infants for possible serious bacterial infection or very severe disease, pneumonia and local 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 pink row, select POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE. If the infant has only the sign in the second row and no sign in the pink row, select PNEUMONIA. If the infant has any sign in the third row, select LOCAL INFECTION. An infant who has none of the signs in the top three rows gets the classification SEVERE DISEASE OR LOCAL INFECTION UNLIKELY.

**PLEASE OPEN YOUR CHART BOOKLET ON PAGE 30 AND READ THE RIGHT SIDE OF THE PAGE (COLOURED BOXES)**

### POSSIBLE SERIOUS BACTERIAL INFECTION OR 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 bacterial 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 making the initial management decisions.

A young infant with any sign of POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE needs urgent referral to hospital. Before referral, give a first dose of an intramuscular antibiotic (gentamicin) and an oral antibiotic (amoxicillin) if the infant can swallow. Treat to prevent low blood sugar by giving breastmilk or give sugar water if it is not possible to give breastmilk. If the young infant is not able to feed, give breastmilk or sugar water by nasogastric tube. Malaria is unusual in infants of this age, so no treatment is required for possible severe 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.

### PNEUMONIA

Young infants who present with fast breathing as the only sign of illness may have pneumonia. However, when fast breathing is the only sign of illness, the age of the infant determines the classification and recommended treatment. Research has shown that babies 7-59 days old can be treated with oral antibiotics if they present with fast breathing alone and they likely do not need hospital treatment.

Infants with fast breathing as the only sign of illness:

- who are 7 to 59 days old are classified as PNEUMONIA and can be treated with oral antibiotics at home.
- who are less than 7 days old are classified as VERY SEVERE DISEASE and should be given pre-referral treatments and urgently referred.

It is required to follow up these young infants on day 4 of treatment to check that they are improving. If not, they must be referred to hospital.

**LOCAL INFECTION**

Young infants with this classification have an umbilical 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. Local infections can progress rapidly in young infants.

**SEVERE DISEASE OR LOCAL INFECTION UNLIKELY**

Young infants with this classification have none of the signs of possible serious bacterial infection or very severe disease, pneumonia, or local infection. Advise the mother to give home care to the young infant.

## 1.3 ASSESS AND CLASSIFY FOR JAUNDICE

**PLEASE OPEN YOUR CHART BOOKLET ON PAGE 31**

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 of 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 in less than 24 hours after birth is always due to an underlying disease. Deep jaundice that extends to the palms or soles can be severe and require urgent treatment. If not treated, it may damage the young infant's brain. Jaundice that persists beyond the age of two weeks in a normal weight young infant and beyond three weeks in a small young infant needs further investigation.

**CHECK THE YOUNG INFANT FOR JAUNDICE**

Assess every young infant for jaundice as described in the box below (on page 3 of the Chart Booklet). 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 discoloration. If there is yellow discoloration, the infant has jaundice. To assess for severity, repeat the process over the palms and soles.

## CLASSIFY JAUNDICE

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 or soles is also classified as having SEVERE JAUNDICE. These infants require urgent referral to hospital.

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

If the young infant with JAUNDICE is older than 3 weeks, refer to a hospital for assessment.

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

This is shown in the classification table.

**PLEASE OPEN YOUR CHART BOOKLET ON PAGE 31 AND READ**

**THE RIGHT HALF OF THE PAGE (COLOURED BOXES)**

## 1.4 ASSESS DIARRHOEA

**PLEASE OPEN YOUR CHART BOOKLET ON PAGE 32**

If the mother says that the young infant has diarrhea, assess and classify for dehydration. The normally frequent, loose or semi-solid stools of a breastfed young infant are not diarrhea. The mother of a breastfed young infant can recognize diarrhea because the consistency or frequency of the stools is different than normal. A young infant has diarrhea if the stools have changed from usual pattern and are more frequent than usual, and are watery (more water than fecal matter). The assessment is similar to the assessment of diarrhea for an older infant or young child, but fewer signs are checked. Thirst is not assessed because it is not possible to distinguish thirst from hunger in a young infant.

Read the steps to assess the child for dehydration if the child has diarrhea:

## CLASSIFY DIARRHOEA FOR DEHYDRATION

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

**PLEASE OPEN YOUR CHART BOOKLET ON PAGE 32 AND READ**

**THE RIGHT HALF OF THE PAGE (COLOURED BOXES)**

***Using the Recording Form: Management of the Sick Young Infant Age Birth up to 2 Months***

Read the Young Infant IMNCI Recording Form on the next page. It is similar to the IMNCI Recording Form for the management of a sick child. This form will be used by the health worker to record information at all sick young infant contacts.

## IMNCI Case Recording Form: MANAGEMENT OF THE SICK YOUNG INFANT -- BIRTH UP TO AGE 2 MONTHS

Name: _____ Age: _____ Sex: ____ Weight: _____ Temperature: _____°C

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

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

**CHECK FOR POSSIBLE VERY SEVERE DISEASE and LOCAL INFECTION**

- Is the infant having difficulty feeding?
- Has the infant had convulsions?

· Count the breaths in one minute. _____breaths per minute
Repeat if (≥ 60) elevated _____ Fast breathing?
· Look for severe chest indrawing
· Fever (temperature ≥ 38°C) or body temperature below 35.5°C
· Look at young infant's movements.
Does the infant move on his/her own?
Does the infant move only when stimulated?
Does the infant not move at all?
· Look at umbilicus. Is it red or draining pus?
· Look for skin pustules.

**CHECK FOR JAUNDICE**

- When did the jaundice appear first?

· Is skin yellow?
· Are the palms or soles yellow?

**DOES THE YOUNG INFANT HAVE DIARRHOEA? Yes __ No ____** If yes, ASK:

· For how long? _____ Days

·Look at the young infant's general condition.
Does the infant move only when stimulated?
Does the infant not move at all?
Is the infant restless and irritable?
Look for sunken eyes.
Pinch the skin of the abdomen. Does it go back:
Very slowly (longer than 2 seconds)?
Slowly?

**THEN CHECK FOR FEEDING PROBLEM OR LOW WEIGHT FOR AGE**

- Is the infant breastfed? Yes _____ No _____
- If Yes, how many times in 24 hrs? _____ times
- Does the infant receive any other foods or drinks? Yes ___ No ___
  If Yes, how often? _____ times
- If yes, what do you use to feed the infant?

- Determine weight for age.
- Very low weight for age (< 1.5 kg or < -3 Z score) ___
  Low weight for age____
  NOT low weight for age ____
- Look for ulcers or white patches in the mouth (thrush)

If the infant has **any difficulty feeding,** is **feeding < 8 times in 24 hours,** is **taking any other food or drinks,** or is **low weight for age, AND has no indications to refer urgently to hospital: ASSESS BREASTFEEDING**:

- Has the infant breastfed in the previous hour?
- 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
- 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 attach? To check attachment, look for:
- More areola seen above than below the mouth Yes ___ No ___
- Mouth wide open Yes ___ No ___
- Lower lip turned outward Yes ___ No ___
- Chin touching breast Yes ___ No ___

*Good attachment_____ Poor attachment_____ No attachment at all ____*

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

*Suckling effectively____ not suckling effectively_____ not suckling at all____*

**CHECK THE YOUNG INFANT'S IMMUNIZATION STATUS:** Circle immunizations needed today.

BCG Hep B-0 OPV-0 Pentavalent-1 OPV-1 Rotavirus-1 PCV-1

Return for next immunization on:

**ASSESS OTHER PROBLEMS:**

**COUNSEL THE MOTHER ABOUT HER OWN HEALTH**

## EXERCISE B

In this exercise you will practice recording assessment results on a Young Infant IMNCI Recording Form. You will classify the infants for possible serious bacterial infection or very severe disease, pneumonia, local infection, jaundice, and diarrheoa. Get 7 blank Young Infant IMNCI Recording Forms from a facilitator. Also, turn to page 2 in the Chart Booklet to begin.

To do each case:

1. Label a Young Infant IMNCI 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 possible serious bacterial infection or very severe disease, pneumonia, local infection, jaundice, diarrhoea. Record the classifications in the column “Classify.”

5. Then go to the next case.

**Case 1: Hassan**

Hassan 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 POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE, PNEUMONIA and LOCAL INFECTION. The father says that the young infant 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 young infant has severe chest indrawing. When the health worker asks the mother to put Hassan to the breast, he does not suckle at the breast at all. The young infant moves only when he is stimulated. The umbilicus is normal, and there are no skin pustules. There is no jaundice. The young infant does not have diarrhoea.

**Case 2: Sajda**

Sajda 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 possible serious bacterial infection or very severe disease and local infection. Sajda's mother says that there were no convulsions and that the infant is feeding well. Sajda's breathing rate is 55 per minute. She has no chest indrawing. 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 has no jaundice and no diarrhoea.

**Case 3: Edhi**

Edhi is a young infant who was born exactly 2 weeks ago. His weight is 3.5 kg. His axillary temperature is 36.5° C. His mother says that he had fast breathing. She says he has had no convulsions and is feeding well. The health worker counts his breathing and finds he is breathing 65 breaths per minute. A repeat count is 70 breaths per minute. He has no chest indrawing. The health worker looks over his entire body and finds no skin pustules, and the umbilicus is normal. He is awake and playful and is moving normally. The colour of the skin is normal. He does not have diarrhoea.

**Case 4: Raja**

Raja is one week old. His weight is 2.2 kg. His axillary temperature is 36.0ºC. His mother has brought him because she noted that the colour of the skin has changed in the last 2 days. The health worker assesses for signs of possible serious bacterial infection or very severe disease, pneumonia and local infection. The mother says that Raja has not had convulsions and is feeding well. The frequency of breathing is 58 per minute. There is no chest indrawing. Umbilicus is normal and there are no pustules on the skin. The health worker saw that Raja was moving normally. In the examination of the body, the health worker finds that the skin is yellow. The palms and soles are also yellow. He has no diarrhoea.

**Case 5: Aaliya**

Aaliya is 10 days old. Her weight is 3.2 kg. Her axillary temperature is 36.7ºC. She was born at home. The mother says that she was fine although she noted that the infant's eyes were rather yellow from the third day of life and are still yellowish. The health worker assesses the young infant for signs of possible serious bacterial infection or very severe disease, pneumonia and local infection. The mother says that Aaliya has not had convulsions and is feeding well. Her breathing rate is 52 per minute. There is no chest indrawing. The umbilicus looks normal. There are no

pustules on the skin. She moves normally during the examination. The health worker confirms the skin is somewhat yellow, but he does not find any yellow discoloration in the palms or soles. Aaliya has no diarrhoea.

**Case 6: Jiya**

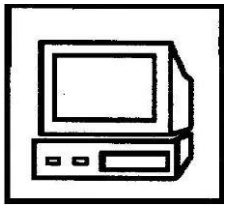
Jiya is 7 weeks old. Her weight is 3 kg. Her axillary temperature is 36.4°C. Her mother has brought her because she has diarrhoea. The health worker first assesses her for signs of possible serious bacterial infection or very severe disease, pneumonia, and local infection. Her mother says that she has not had convulsions and is breastfeeding well. Her breathing rate is 50 per minute. She was sleeping in her mother's arms but awoke when her mother unwrapped her. She has slight chest indrawing. Her umbilicus is not red or draining pus. She has a rash in the area of her diaper, but there are no pustules. There are no signs of jaundice in the skin. She is crying and moving her arms and legs.

When the health worker asks the mother about Jiya's diarrhoea, the mother replies that it began 3 days ago. Jiya 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 7: Naheed**

Naheed is 3 weeks old. Her weight is 4.2 kg. Her axillary temperature measures 36.2° 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 Naheed has had convulsions, she says no. The health worker counts 50 breaths per minute. Naheed has no chest indrawing. The mother says that Naheed has not been feeding well since yesterday. When the health worker observes breastfeeding, Naheed is not able to attach to the breast well. Her umbilicus is red and is draining pus. There are no pustules on her body. Naheed made a few movements during the assessment and moves slightly more on stimulation. The colour of the skin is normal. Naheed does not have diarrhoea.

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



## EXERCISE C

This exercise is a video case study of a young infant. You will practice assessing and classifying the young infant for Possible Severe Bacterial Infection or Very Severe Disease and jaundice. Write your assessment results and the infant's classifications.

## 1.5 CHECK FOR FEEDING PROBLEM OR LOW WEIGHT FOR AGE OR VERY LOW WEIGHT FOR AGE IN BREASTFED INFANTS

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. 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.

Check for feeding or low weight for age **only** if the infant does not have any indication to refer urgently to hospital. 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 and look for the presence of ulcers or white patches in the mouth. In the second part, you assess how the infant breastfeeds.[1]

**PLEASE OPEN YOUR CHART BOOKLET ON PAGE 33**

### 1.5.1 Ask About Feeding, Determine Weight for Age and Look for Thrush

The first part of the assessment is shown below.

**ASK: Is the infant breastfed? 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.

[1] If the infant is not breastfed, use a different chart. See page 7 of the chart booklet.

**ASK: If yes, what do you use to feed the infant?**

If the infant takes other foods or drinks, find out if the mother uses a feeding bottle or cup.

**LOOK: Determine weight for age.**

Weigh the young infant and note the weight. Use the appropriate weight for age chart for boys or girls to determine if the young infant is low weight for age (below the line for -2 Z-score) or very low weight for age (below the line for -3 Z-score). Any young infant who weighs less than 1.5 kg is considered very low weight for age also.

**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.

| 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 is breastfed)

Assessing breastfeeding requires careful observation. Open page 31 of chart booklet

**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 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 well attached?**

The four signs of good attachment are:

- more areola seen above infant's top lip than below bottom lip
- mouth wide open
- lower lip turned outwards
- chin touching breast

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

If attachment is not good, you may see:

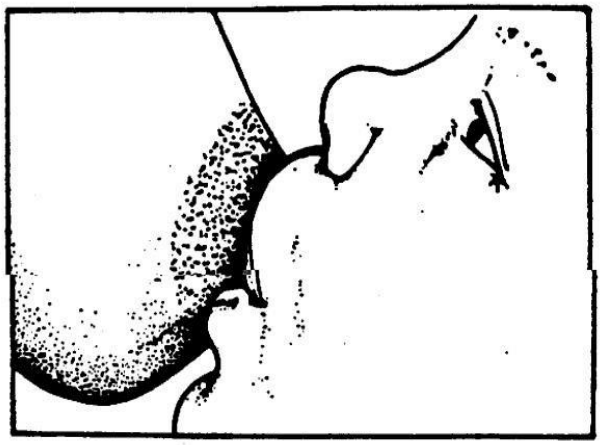
- more areola (or equal amount) seen below infant's bottom lip than above top lip
- mouth not wide open, lips pushed forward
- lower lip turned in, or
- chin not touching breast

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*** young infant ***well attached to his mother's breast***

***A*** young infant ***poorly attached to his mother's breast***



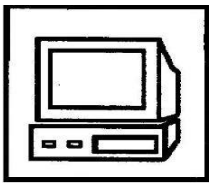
**LOOK: Is the infant suckling effectively? (that is, slow deep sucks, sometimes pausing)**

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.

If the infant is not attaching well or is suckling poorly, you will help the mother to improve positioning and attachment (*you will learn how to do this later in this module*). If the infant is **still** not suckling well, this infant should be referred urgently to hospital.



## EXERCISE D

In this exercise you will practice recognizing signs of good and poor attachment during breastfeeding as shown on 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 1 -- Video**

This video will demonstrate assessment of breastfeeding attachment and 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 |
|---|---|---|---|---|---|---|
| | More Areola seen above infant's top lip than below bottom lip | Mouth Wide Open | Lower Lip Turned Outwards | Chin touching breast | | |
| 66 | yes | yes | yes | yes (almost) | Good attachment | |
| 67 | no (equal above and below) | no | yes | no | Not well attached | |

| Photo | Signs of Good Attachment | | | | Assessment | Comments |
|---|---|---|---|---|---|---|
| | More Areola seen above infant's top lip than below bottom lip | Mouth Wide Open | Lower Lip Turned Outwards | Chin touching breast | | |
| 68 | yes | no | no | yes | Not well attached | Lower lip turned in |
| 69 | no | no | no | no | Not well attached | Cheeks pulled in |
| 70 | cannot see | yes | yes | yes | 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 CHECK FOR FEEDING PROBLEM OR LOW WEIGHT FOR AGE OR VERY LOW WEIGHT FOR AGE IN INFANTS RECEIVING NO BREASTMILK

Page 34 is the alternative to use only if the infant is NOT breastfed. The steps to check the infant receiving no breastmilk are explained below the box.

**ASK**: **What milk are you giving?**

Ask the mother questions to determine what replacement milk or milks are used. It may be a breastmilk replacement, animal milk or some other fluid or some combination.

**ASK: How many times during the day and night?**

Is it less than 8 times each day?

**ASK: How much is given at each feed?**

It is helpful to have common bottles or cups available so that a mother can show you the amount that she gives.

**ASK: How are you preparing the milk?**

**How is the milk being given? Cup or bottle?**

Let mother demonstrate or explain how a feed is prepared, and how it is given to the infant.

**ASK: How are you cleaning the feeding utensils?**

Improperly cleaned utensils are a common source of contamination of replacement feeds.

**ASK: Are you giving any breastmilk at all?**

**What foods and fluids in addition to replacement feeds are given?**

## CLASSIFY FEEDING PROBLEM OR LOW WEIGHT FOR AGE OR VERY LOW WEIGHT FOR AGE

If you have already found that the infant has any indications to refer urgently to hospital, do not classify for feeding problem or low weight for age.

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

**PLEASE OPEN YOUR CHART BOOKLET ON PAGE 33 WHICH APPLIES FOR BREASTFED INFANTS AND READ THE RIGHT HALF OF THE PAGE (COLOURED BOXES).**

**VERY LOW WEIGHT FOR AGE**

This classification includes infants whose weight is less than 1.5 kg or is below the line for a -3 Z-score. These infants are very low weight for age and are very likely to have problems maintaining their body temperature and feeding adequately. They should be referred urgently.

**FEEDING PROBLEM OR LOW WEIGHT FOR AGE**

This classification includes infants who are low weight for age (weight below the line for -2 Z-score) or infants who have some sign that their feeding needs improvement. They are likely to have more than one of these signs.

**For the breastfed infant**: 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 satisfied; only when a breast gives no more milk, should the infant be switched to the other breast. 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.

**For the infant receiving no breastmilk:** Counsel the mother of any young infant in this classification as needed to address the particular feeding problems. (The signs of an infant with this classification and the corresponding counselling are listed in the Classification table on page 7 in the Chart Booklet.) Counsel about feeding to address the problem of inappropriate replacement feeds or insufficient feeds. If there is any problem with unhygienically prepared milk or unclean utensils, explain the guidelines for safe replacement feeding. If the mother is using a bottle, teach cup feeding. Identify concerns of the mother and family about feeding and discuss these.

**For all infants in this classification:** 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 breastfed young infant in this classification is exclusively and frequently breastfed. An infant who receives no breastmilk in this category is receiving safe and adequate replacement feeds.

"Not low" weight for age means that the infant's weight for age is not below the line for -2 Z score or "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 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?

**PLEASE OPEN YOUR CHART BOOKLET ON PAGE 35 AND READ ALL THE INFORMATION IN THE IMMUNIZATION STATUS BOX.**

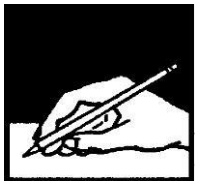
As included in the National Immunization schedule, give a dose of Hepatitis B at birth. Then give three doses of Hepatitis B and three doses of *Haemophilus influenzae* type b (Hib) vaccine; at 6 weeks, 10 weeks and 14 weeks, just like DPT.

Remember that you should not give OPV 0 or HepB0 to an infant who is more than 14 days old. Therefore, if an infant has not received these vaccines by the time he is 15 days old, you should wait to give OPV and HepB until he is 6 weeks old. Then give Penta-1 (DPT-1 + HIB-1+ Hep B1), as well as OPV 1, Rotavirus 1 and Pneumococcal conjugate vaccine (PCV)1.

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.

## 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.



## EXERCISE E

This exercise will continue the 7 cases begun in Exercise B. Refer to the *YOUNG INFANT* chart booklet and the Weight for Age charts as needed.

For each case:

1. Read the description of the rest of the assessment of the infant.

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: Hassan**

*Hassan 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 POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE, PNEUMONIA and LOCAL INFECTION. The father says that the young infant 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 young infant has severe chest indrawing. When the health worker asked the mother to put Henri to the breast, he does not suckle at the breast at all. The young infant moves only when he is stimulated. The umbilicus is normal, and there are no skin pustules. There is no jaundice. The young infant does not have diarrhoea.*

The health worker does not assess Hassan for FEEDING PROBLEM OR LOW WEIGHT and immunization status because the young infant has indications for urgent referral.

**Case 2: Sajda**

*Sajda 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 possible serious bacterial infection or very severe disease and local infection. Sajda's mother says that there were no convulsions and that the infant is feeding well. Sajda's breathing rate is 55 per minute. She has no chest indrawing. 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 has no jaundice and no diarrhoea.*

When asked about feeding, the mother says that Sajda breastfeeds 9 or 10 times in 24 hours and drinks no other fluids. Then the health worker refers to Sajda's weight and age recorded at the top of the recording form. He uses the Weight for Age chart to check Sajda's weight for age. The health worker assesses breastfeeding and finds that Sajda is well attached to the breast and is suckling effectively. There are no white patches in the mouth.

Sajda's mother has an immunization card. It shows that she received BCG, OPV 0 and HepB0 at birth in the hospital. When the health worker asks the mother if Sajda has any other problems, she says no.

**Case 3: Edhi**

*Edhi is a young infant who was born exactly 2 weeks ago. His weight is 3.5 kg. His axillary temperature is 36.5° C. His mother says that he had fast breathing. She says he has had no convulsions and is feeding well. The health worker counts his breathing and finds he is breathing 65 breaths per minute. A repeat count is 70 breaths per minute. He has no chest indrawing. The health worker looks over his entire body and finds no skin pustules, and the umbilicus is normal. He is awake and playful and is moving normally. The colour of the skin is normal. He does not have diarrhoea.*

Edhi'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 Edhi is probably hungry now and puts him to the breast. The health worker observes that more areola is visible above than below the mouth. Edhi'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 satisfied. The health worker sees no ulcers or white patches in his mouth.

Edhi has had no immunizations.

**Case 4: Raja**

*Raja is one week old. His weight is 2.2 kg. His axillary temperature is 36.0ºC. His mother has brought him because she noted that the colour of the skin has changed in the last 2 days. The health worker assesses for signs of possible serious bacterial infection or very severe disease, pneumonia and local infection. The mother says that Raja has not had convulsions and is feeding well. The frequency of breathing is 58 per minute. There is no chest indrawing. Umbilicus is normal and there are no pustules on the skin. The health worker saw that Raja was moving normally. In the examination of the body, the health worker finds that the skin is yellow. The palms and soles are also yellow. He has no diarrhoea.*

The health worker decides not to assess breastfeeding or immunization, because the young infant has Severe Jaundice and should be referred urgently.

**Case 5: Aaliya**

*Aaliya is 10 days old. Her weight is 3.2 kg. Her axillary temperature is 36.7ºC. She was born at home. The mother says that she was fine although she noted that the infant's eyes were rather yellow from the third day of life and are still yellow. The health worker assesses the young infant for signs of possible serious bacterial infection or very severe disease, pneumonia and local infection. The mother says that Aaliya has not had convulsions and is feeding well. Her breathing rate is 55 per minute. There is no chest indrawing. The umbilicus looks normal. There are no pustules on the skin. She moves normally during the examination. The health worker confirms the skin is somewhat yellow, but he does not find any yellow discoloration in the palms or soles. Aaliya has no diarrhoea. Her mother was tested during pregnancy.*

Her mother says that she breastfeeds 6 or 7 times a day. She gives her only breastmilk. The health worker checks the weight for age.

The health worker asks the mother to breastfeed Aaliya. She is well attached to the breast and is suckling correctly. There are no white patches in the mouth. When asked about immunizations, the mother says that Aaliya was born at home and was not given any immunization.

**Case 6: Jiya**

*Jiya is 7 weeks old. Her weight is 3 kg. Her axillary temperature is 36.4$^{o}$C. Her mother has brought her because she has diarrhoea. The health worker first assesses her for signs of possible serious bacterial infection or very severe disease and local infection. Her mother says that she has not had convulsions and is breastfeeding well. Her breathing rate is 50 per minute. She was sleeping in her mother's arms but awoke when her mother unwrapped her. She has slight chest indrawing. Her umbilicus is not red or draining pus. She has a rash in the area of her diaper, but there are no pustules.*

*There are no signs of jaundice in the skin. She is crying and moving her arms and legs.*

*When the health worker asks the mother about Jiya's diarrhoea, the mother replies that it began 3 days ago. Jiya 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.*

When asked, Jiya's mother says that Jiya 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. Jiya 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. Jiya'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 Jiya stops breastfeeding, the health worker looks in her mouth. He sees no ulcers or white patches in her mouth.

Jiya's mother has an immunization card. It shows that Jiya received BCG and OPV0 on the day after birth in the hospital. Her mother says that she has no other problems.

**Case 7: Naheed**

*Naheed is 3 weeks old. Her weight is 4.2 kg. Her axillary temperature measures 36.2□ 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 Naheed has had convulsions, she says no. The health worker counts 50 breaths per minute. Naheed has no chest indrawing. The mother says that Naheed has not been feeding well since yesterday. When the health worker observes breastfeeding, Naheed is not able to attach to the breast well. Her umbilicus is red and is draining pus. There are no pustules on her body. Naheed made a few movements during the assessment and moves slightly more on stimulation. The colour of the skin is normal. Naheed does not have diarrhoea.*

Since Naheed should be referred urgently, the health worker does not assess breastfeeding or immunization status.

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* charts.

## 2.1 DETERMINE IF THE YOUNG INFANT NEEDS URGENT REFERRAL

If the infant has any classification in a pink row, he or she needs urgent referral for hospital care.

These severe (pink) classifications are:

- POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE
- SEVERE JAUNDICE
- SEVERE DEHYDRATION
- VERY LOW WEIGHT FOR AGE

When you decide that a young infant needs urgent referral, begin talking to the mother about the need to take the infant for hospital care.

## 2.2 IDENTIFY URGENT, PRE-REFERRAL TREATMENT FOR A YOUNG INFANT WHO NEEDS TO BE URGENTLY REFERRED

Before urgently referring a young infant to hospital, identify all appropriate pre-referral treatments. Urgent pre-referral treatments are listed for each classification in a pink row in bold print on the chart. For any severe (pink) classification that you have written on the front of the recording form, quickly write the appropriate pre-referral treatments on the back of the form.

Of the four classifications that require urgent referral, only the young infant who has POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE should receive a first dose of intramuscular antibiotics prior to referral. However, all young infants who are urgently referred should be treated to prevent low blood sugar and their mothers should be taught how to keep the young infant warm on the way to the hospital.

Treatments for other classifications 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.

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

Identify treatments for each classification by reading the chart. Classifications in yellow rows or green rows can be satisfactorily treated at home, with a follow-up visit to check that the infant is improving.

Classifications in yellow include:

- PNEUMONIA (in infant 7 to 59 days old with fast breathing as the only sign of illness)
- LOCAL INFECTION

- JAUNDICE
- SOME DEHYDRATION
- FEEDING PROBLEM OR LOW WEIGHT FOR AGE

Classifications in green rows usually call for advising the mother about home care.

For each classification that you have written on the front of the recording form, record on the back of the form the treatments needed, 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 with jaundice should return in one day; that means 24 hours later. A young infant who has diarrhoea with some dehydration or no dehydration, or local infection, should return in two days (that means after 48 hours, or 2 days of treatment). A young infant who has a feeding problem or thrush should return in 2 days. A young infant who receives antibiotics for pneumonia or severe pneumonia should return in 3 days. A breastfed infant with low weight for age should return for follow-up in 14 days.

| **Follow up visit** | |
|---|---|
| **If the infant has:** | **Return for first follow-up on:** |
| ▪ JAUNDICE | Day 2 of treatment |
| ▪ DIARRHOEA<br>▪ FEEDING PROBLEM<br>▪ THRUSH<br>▪ LOCAL INFECTION | Day 3 of treatment |
| ▪ PNEUMONIA<br>▪ SEVERE PNEUMONIA where referral is refused or not possible | Day 4 of treatment |
| ▪ LOW WEIGHT FOR AGE in infant receiving no breastmilk | Day 7 of treatment |
| ▪ LOW WEIGHT FOR AGE in breastfed infant | Day 14 of treatment |

When to return for follow-up is summarized on page 45 in the Chart Booklet.

## 3.0 TREAT THE SICK YOUNG INFANT WHO NEEDS URGENT REFERRAL

The sick young infant with a severe disease classification is at risk of death and needs to have treatment immediately. The best treatment option for the sick young infant with severe signs is at hospital level. Health workers need to use good counselling and negotiation skills when talking to and supporting caregivers to accept referral.

**PLEASE OPEN YOUR CHART BOOKLET TO PAGE 36. READ THE BOXES UNDER "IF THE YOUNG INFANT IS CLASSIFIED AS POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE, GIVE PRE-REFERRAL TREATMENTS AND REFER URGENTLY"CONTINUE READING ON PAGE 38 WHERE THE THIRD AND FOURTH STEPS OF REFERRING THE YOUNG INFANT ARE DESCRIBED.**

## 3.1 GIVE URGENT PRE-REFERRAL TREATMENTS

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

1) Give first dose of intramuscular antibiotics if the infant has the classification POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE. (How to give intramuscular gentamicin is described in section 4.1.)
2) Treat the young infant to prevent low blood sugar as shown in the box on page 9 of the chart booklet.
3) Teach the mother how to keep the infant warm on the way to the hospital (page 10 of the chart booklet). Keeping a sick young infant warm is very important.
4) If the infant has SEVERE DEHYDRATION or SOME DEHYDRATION, give the mother some prepared ORS solution and ask her to give frequent sips of ORS on the way. Also advise the mother to continue breastfeeding.

While you are giving the pre-referral treatments, you will also explain to the mother the need for referral and try to resolve any problems, prepare a referral note, gather any necessary supplies for the trip, and finally review with her what to do on the way to the hospital.

## 3.2 REFER THE YOUNG INFANT

Explain to the caregivers that young infants are particularly vulnerable. When they are seriously ill, they need hospital care and need to receive it promptly. Many families 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.

1. ***Explain to the mother/family the need for referral, and get her/their agreement to take the infant. If you suspect that she/they does not want to take the infant, find out why.*** Possible reasons are:
    - She/they ***Calm the mother's*** thinks that hospitals are places where people often die, and she fears that her infant will die there too.
    - She/they does not think that the hospital will help the infant.
    - She cannot leave home and tend to her infant during a hospital stay because:
        - there is no one to take care of her other children, or
        - she is needed for farming, or
        - she may lose a job.
    - She/they does not have money to pay for transportation, hospital bills, medicines, or food for herself during the hospital stay.
2. ***Calm the mother's fears and help her resolve any problems.*** For example:
    * If the mother fears that her infant will die at the hospital, reassure her that the hospital has physicians, supplies, and equipment that can help cure her infant.
    * Explain what will happen at the hospital and how that will help her infant.
    * If the mother needs help at home while she is at the hospital, ask questions and make suggestions about who could help. For example, ask whether her

husband, sister or mother could help with the other children or with meals while she is away.

* Discuss with the mother how she can travel to the hospital. Help arrange transportation if necessary.

You may not be able to help the mother solve her problems and be sure that she goes to the hospital. However, it is important to do everything you can to help.

3. ***Write a referral note for the mother to take with her to the hospital. Tell her to give it to the health worker there.*** Write:

   * the name and age of the infant
   * the reason for referral (symptoms and signs leading to severe classification),
   * treatment that you have given
   * comments (any other information that the health worker at the hospital needs to know in order to care for the infant, such as earlier treatment of the illness or description of the infant's problems)
   * the date and time of referral
   * your name and the name of your clinic.

There is an example referral note at the back of the Young Infant Chart Booklet.

4. ***Give the mother any supplies and instructions needed to care for her infant on the way to the hospital:***
   * If the infant has SOME DEHYDRATION or SEVERE DEHYDRATION and can drink, give the mother some ORS solution for the infant to sip frequently on the way.
   * Review and encourage the mother to follow your instructions on the way to the hospital:
     – Keep the young infant warm during the trip.
     – Continue breastfeeding.

However, sometimes there are sick young infants who do not have access to a hospital, either because of distance or some reason that the family refuses referral. In these cases, there is something further that the health worker can do, as described in the following section.

## 3.3 WHERE REFERRAL IS REFUSED OR NOT POSSIBLE, FURTHER ASSESS AND CLASSIFY THE SICK YOUNG INFANT

The best possible treatment for an infant with a very severe illness is at a hospital. However, referral is not possible in many cases because access to hospital is difficult. The family may not have money for medicine, transport, lodging and food in larger towns, and transportation might not be available. Parents may not be able to take an infant to a larger health center or hospital, in spite of the health worker's efforts to explain the need for referral.

The reality is that very few newborns are seen at hospitals because of barriers to referral. In such cases, the health worker should do all that she can do to help the family care for the baby.

To help reduce deaths in severely ill newborns who cannot access treatment in hospital, the health worker can further assess and classify the young infant to determine **whether** the infant can be treated as an outpatient, and **what treatment** can be given. For this further assessment and classification, a special table is in the chart booklet on page 12.

To further assess and classify the sick young infant where referral is refused or not possible, check for the signs in the left column of the table. When the infant has signs in more than one row, choose the most severe classification.

**PLEASE OPEN YOUR CHART BOOKLET TO PAGE 39 AND READ THE BOX "WHERE REFERRAL IS REFUSED OR NOT POSSIBLE" FURTHER CLASSIFY ACCORDINGLY**

## CRITICAL ILLNESS

First check for the following signs of **CRITICAL ILLNESS**:

- Convulsions
- Unable to feed at all
- no movement even on stimulation, or unable to cry
- Cyanosis
- Bulging fontanelle

You know how to assess the first 3 signs, as shown on the video in Exercise C.

**How to recognize the additional severe signs**

- Apnoea is when infant pauses breathing for more than 20 seconds and then resumes. Apnoea is generally rare in an infant.
- Cyanosis (though rare) generally happens along with the other severe signs. It is a bluish color of the skin and the mucous membranes due to insufficient oxygen in the blood.
- Bulging fontanelle is seen or felt as an outward curving of an infant's soft spot (fontanelle) on the top of the head. Normally the fontanelle should feel firm and slightly curved inward to the touch.
- Persistent vomiting is defined as vomiting following three attempts to feed the infant within 30 minutes, and the infant vomits after each attempt.

Infants with any one (or more) of the signs listed in the top row of the table on page 12 are classified as CRITICAL ILLNESS. They have signs that require inpatient care. They need to be referred to hospital urgently and should not be treated at outpatient level. These infants are at higher risk of dying and thus you should explain again to the mother that the infant is very sick and needs hospital care.

Give the infant the urgent pre-referral treatment. Discuss the obstacles or the mother's worries that prevent her from taking the young infant. Do whatever you can to facilitate referral of sick young infants with CRITICAL ILLNESS because these infants will need specialized care including parenteral antibiotics, oxygen, and round-the-clock monitoring.

## CLINICAL SEVERE INFECTION

If the young infant does not have any of the signs of critical illness, determine if the young infant has any one of the following signs of **CLINICAL SEVERE INFECTION**:

- Not feeding well on observation
- Temperature 38$^{o}$C or more
- Temperature less than 35.5$^{o}$ C
- Severe chest indrawing
- Movement only when stimulated

Infants with any one (or more) of these signs are classified as CLINICAL SEVERE INFECTION. These infants also need referral. However, when treatment in hospital is refused or not possible, they could be treated with intramuscular gentamicin injections given at the outpatient clinic and oral amoxicillin given at home.

Give oral amoxicillin for 7 days and gentamicin injection for 7 days

**PLEASE OPEN YOUR CHART BOOKLET TO PAGE 39 AND READ THE BOX**

**"WHERE REFERRAL IS REFUSED OR NOT POSSIBLE, TREAT THE YOUNG INFANT WHO HAS CLINICAL SEVERE INFECTION WITH IM GENTAMICIN AND ORAL AMOXICILLIN"**

Follow up of these young infants is extremely important. If an infant becomes worse or does not improve, the young infant should be urgently referred to hospital. The health worker who gives the daily gentamicin injection should reassess the baby at each contact. After the gentamicin injections are completed, the mother should bring the young infant back for follow up to ensure that the improvement continues, and the infant develops no new problems.

The follow-up box on page 22 of the chart booklet titled, "Clinical Severe Infection where Referral was Refused or Not Possible," describes how to care for the young infant at the follow-up visit.

## SEVERE PNEUMONIA

If an infant's only sign of very severe disease is

- Fast breathing (60 breaths per minute or more, counted twice) in infants <u>less than 7 days old</u>,

the infant is classified as having **SEVERE PNEUMONIA**. These infants should be referred to hospital. However, when referral is refused or not possible, they could be treated at outpatient clinic with oral amoxicillin. Use the amoxicillin dosage chart on page 41.

(Remember that infants <u>age 7 to 59 days old</u> whose only sign was fast breathing (60 breaths per minute or more, counted twice) were classified as PNEUMONIA and are treated with oral amoxicillin; they are not referred initially, but are followed up on day 4 of treatment and then referred if they are not improving or are worse.

# 4.0 TREAT THE SICK YOUNG INFANT AND COUNSEL THE MOTHER

Based on the young infant's classifications, you have determined the treatments and counselling needed.

How to give the different treatments and how to counsel the mother are in the chart booklet.

## 4.1 GIVE AN INTRAMUSCULAR INJECTION OF GENTAMICIN

Young infants with POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE are often infected with a broader range of bacteria than older infants. The combination of gentamicin and amoxicillin is effective against this broader range of bacteria. Young infants in this classification get two antibiotics: intramuscular gentamicin and oral amoxicillin tablets.

There are three situations when you will give a young infant gentamicin intramuscularly:

- For a young infant classified as POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE, give the first dose of gentamicin intramuscularly prior to urgent referral.
- Where referral is refused or not possible, and the young infant is classified as CLINICAL SEVERE INFECTION after further assessment, give a daily gentamicin injection. In addition, the mother will give oral amoxicillin tablets to the young infant twice each day.
- Where referral is refused or not possible, and the young infant is classified as CRITICAL ILLNESS after further assessment, and referral is still not possible, give a daily injection of gentamicin. In addition, give an injection of ampicillin twice each day.

**PLEASE OPEN YOUR CHART BOOKLET ON PAGE 37 AND READ**
**1. GIVE FIRST DOSE OF GENTAMICIN INTRAMUSCULARLY.**

**THEN TURN TO PAGE 41 AND READ**
**GIVE IM GENTAMICIN TO YOUNG INFANTS WITH CLINICAL SEVERE INFECTION**
**WHERE REFERRAL IS REFUSED OR NOT POSSIBLE**

**THEN TURN TO PAGE 42 AND READ**
**GIVE FIRST DOSES OF IM GENTAMICIN AND IM AMPICILLIN TO YOUNG INFANTS**
**WITH CRITICAL ILLNESS AND REFER URGENTLY TO HOSPITAL**

***Note that the gentamicin doses remain the same in each chart.***

**Preparation of a gentamicin injection**

Gentamicin may be available in an ampoule containing either 80 mg or 40 mg in 2 ml solution. When gentamicin will be given to a young infant, the strength should be 20 mg/ml.

If the ampoule available contains 80 mg (that is 40 mg/ml), you will need to dilute it to obtain the required strength of 20 mg/ml. Follow steps 1 through 10 below:

1) Put the needle straight through the open top of the ampoule. You may tip the ampoule carefully (ampoules do not spill very easily because the opening is narrow).

2) Withdraw gentamicin from the ampoule.
   - Pull up slightly more than 1 ml of gentamicin into the syringe.
   - Remove needle/syringe from ampoule.
   - Hold syringe with exposed needle upwards. Tap the syringe to displace any air bubbles.

3) Press the plunger slowly to displace air on top, continuing to depress the plunger until no further air can be expelled, then continuing slowly to press until exactly 1 mL remains in the syringe.

4) Place syringe on clean tray. Do not touch the exposed needle.

5) Discard the contents of the ampoule (but not the ampoule itself) by vigorously shaking out the fluid into a bucket. Do not touch or tap the vial onto any object or surface (since it can easily break). Ensure that there are no drops of fluid left in the ampoule.

6) Replace the 1 ml of gentamicin back into the emptied ampoule.
   - Carefully place the end of the needle inside the ampoule.
   - Completely depress the plunger slowly and carefully, so that all of the 1 ml of gentamicin is expelled back into the empty ampoule.
   - Place the ampoule upright on a hard, flat surface (e.g., a tray).

7) Open an ampoule of distilled water.

8) Using the same syringe and needle (as long as it has remained sterile), put the needle straight through the open top of the ampoule and withdraw 1 (one) ml of distilled water into the syringe.

9) Insert 1 ml of distilled water into the original gentamicin ampoule (which now contains exactly 1 ml of gentamicin).

10) Mix the contents of the ampoule (1 ml gentamicin and 1 ml water) by repeatedly drawing up the full 2 ml contents up into the syringe, and then expelling it back into the ampoule at least 3 times, without removing the needle from the ampoule.

There is no need to make measurements at this step, since this is just for mixing.

**Measuring the exact dose of 20 mg/ml gentamicin to administer to the young infant.**

Using the syringe and needle draw up the exact dose of 20 mg/ml gentamicin.

- Choose the dose from the row of the table in the chart booklet which is closest to the infant's weight.
- Pull up slightly more than the required volume of 20 mg/ml gentamicin into the syringe.
- Remove needle/syringe from ampoule.
- Hold the syringe with the exposed needle upwards. Tap the syringe to displace any air bubbles. Press the plunger slowly to displace air on top, continuing to depress the plunger until no further air can be expelled, then continuing very slowly to press until exactly the required volume (dose) remains in the syringe.

Place syringe on clean tray. Do not touch the exposed needle.

***Your facilitator will lead a drill to give practice reading the gentamicin dosage table to determine the correct dose for infants based on weight.***

**Use of gentamicin**

Gentamicin is given to young infants who have POSSIBLE SEVERE BACTERIAL INFECTION OR VERY SEVERE DISEASE prior to their referral to hospital, and, where referral is refused or not possible, is given to young infants classified as CLINICAL SEVERE INFECTION or CRITICAL ILLNESS.

A health worker should refer to the dosing tables in the chart booklet (page 9, 13 or 14) all the time and never try to memorize the dosages. It is easy to make mistakes; by referring to the chart booklet the health worker can assure that the correct medicine and dose is given to the young infant. As when giving any injection, health workers must use proper infection prevention techniques and dispose of the used syringe and needle in a safe box after giving the injection.

The gentamicin injection is given in the front and side (anterior-lateral) of the baby's midthigh, half way from the knee to the top of the leg. The injection is given in the muscle in the thigh. See the illustration below.

Give ONLY ONE injection of gentamicin daily and give the injection in the right or left thigh alternately from day to day.

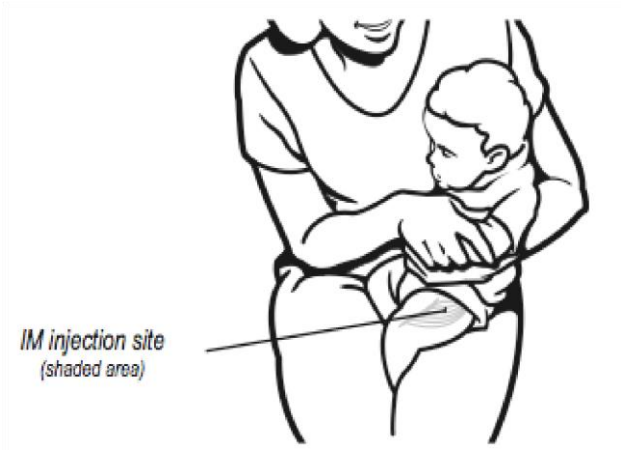
A health worker must administer the full course of treatment with gentamicin (2 days or 7 days depending on the option chosen by your country). If the course of treatment is 7 days, a health worker will have to be present to give the injection every day, even during the weekend.

## *Illustration of Injection Site (Antero-lateral thigh) for Young Infant*

Give the following information to the mother or caregiver:

- Explain what medicines are to be given to the young infant: gentamicin injection and, if the young infant is not being referred, oral amoxicillin will be given by the family.
- Explain to the mother why the medicine is given.
- Instruct the mother that the young infant should return each day for another injection (tomorrow or every day for 6

  6 more days), even if the young infant improves.




- Discuss with the mother where the young infant could receive the next injection. It could be given by a trained health worker at the health facility or home

### Instructions for the Health Worker

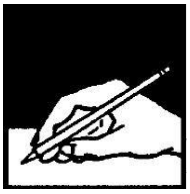
- Follow the instructions below during every injection of gentamicin.
- Wash your hands and put on gloves
- Tell the mother the reason for giving the injection for the sick young infant in addition to oral amoxicillin.
- Make ready the gentamicin, syringe and needle, and alcohol/antiseptic swabs and injection safety box beforehand.
- Check the ampoule of gentamicin for strength. If it is 40/mg/ml, you will need to dilute to a strength of 20/mg/ml.
- Determine the dose appropriate for the young infant's weight by referring to your chart booklet.
- Measure a dose appropriate for the sick young infant.
- Identify the correct site for giving the injection be referring to your chart booklet.
- Clean the injection site.
- Give the gentamicin injection on the correct site; apply pressure to ensure there is no bleeding.
- Drop the needle into the injection safety box.
- Advise the mother that the sick young infant needs the gentamicin in addition to the oral amoxicillin for 7 days, even if he or she improves.

**YOUR FACILITATOR WILL DEMONSTRATE MIXING, DRAWING UP AND GIVING THE CORRECT DOSE OF INTRAMUSCULAR GENTAMICIN TO A YOUNG INFANT**

## Injection: Possible Mistakes and Consequent Dangers

| Possible Mistakes | Consequent Dangers |
|---|---|
| Incorrect procedures regarding cleaning and disinfection, or re-using a syringe and/or needle | Infection; swelling at the injection site, pus<br>Tetanus<br>Hepatitis B and C |
| Incorrect dose | Medicine not effective if dose is inadequate<br>Medicine is dangerous if excessive dose given |
| Injection at wrong place | Bleeding<br>Paralysis |
| Leg moving during injection | Needle could get stuck in leg causing injury |
| Not explaining or educating the parents about the injection(s). | Blame in case of injury or death<br>Gossip |
| Not following up for any possible complication | Complication worsens without any corrective action.<br>Blame |

***NEVER RE-USE A SYRINGE OR NEEDLE!!***



## EXERCISE F

In this exercise you will practice handling syringes, needles and vials of gentamicin. You will determine and then draw up the correct dose of gentamicin for a sick young infant. You will locate the correct injection site on a young infant. Lastly you will give the injection to an orange.

Listen carefully and follow your facilitator's instructions.

## 4.2 GIVE AN APPROPRIATE ORAL ANTIBIOTIC

Refer to the box on the *YOUNG INFANT* chart for the recommended antibiotic. Teaching a mother how to give the oral medicine at home is an essential part of giving an oral medication to a young infant. Teaching her should include the steps below, also listed on page 13 of the Chart Booklet.

Follow the steps below to teach a mother how to give an oral antibiotic at home.

- **Determine the appropriate oral medicine for the young infant and the dosage for the infant's weight**

  Oral amoxicillin is given to young infants who:

  - Have LOCAL INFECTION, or
  - Have PNEUMONIA (fast breathing alone) in infant 7–59 days old

When referral is refused, or not possible, oral amoxicillin is also given to young infants who:

- Have CLINICAL SEVERE INFECTION, or
- Have SEVERE PNEUMONIA (fast breathing alone) in infant less than 7 days old.

Determine the correct dose of oral amoxicillin from the table on page 13. Choose the dose according to the young infant's weight and the formulation of amoxicillin available.

- **Tell the mother the reason for giving the medicine to the infant, including:**
  - why you are giving the oral medicine to her infant, and
  - what problem it is treating.
- **Demonstrate how to measure a dose.**

  Collect a container of the medicine and check its expiry date. Do not use expired medicines.

  If you will give the mother dispersible amoxicillin tablets, determine the strength of the tablets (250 mg or 125 mg) and determine the dose according to the weight of the young infant. Show the mother how to measure the correct dose (e.g. 1/2 tablet, 1 tablet).

  If you will give her amoxicillin syrup, determine the correct dose for the young infant's weight. Then show the mother how to measure the correct number of millilitres (ml) of amoxicillin syrup for one dose at home. Use a spoon like a spoon that the mother will have at home to measure the correct dose.

  Remind the mother that she should wash her hands before opening and measuring the medicine.

- **Observe the mother practice measuring a dose by herself.**

  Ask the mother to measure a dose by herself. Observe her as she practices. Tell her what she has done correctly. If she measured the dose incorrectly, show her again how to measure it.

If using a dispersible tablet, she should place the tablet in a spoon. Show her how to add a bit of breastmilk to the spoon and watch as the tablet dissolves.

- **Ask the mother to give the first dose to her infant.**

  Watch as she measures and gives the syrup or dissolved tablet.

  Tell the mother to watch the infant for 30 minutes after giving the dose. If the infant vomits within the 30 minutes (the syrup may be seen in the vomit), give another dose.

- **Explain carefully how to give the medicine. Label and package the medicine.**

  Tell the mother how many times per day to give the dose. Tell her when to give it (such as early morning, lunch, dinner, before going to bed) and for how many days.

- **Explain that all the tablets or syrup must be used to complete the course of treatment, even if the infant gets better.**

  Explain to the mother that even if the infant seems better, she should continue to treat the infant. This is important because the bacteria may still be present even though the signs of disease are gone.

  Advise the mother to keep all medicines out of the reach of children. Also tell her to store medicines in a dry and dark place that is free of mice and insects.

- **Check the mother's understanding before she leaves the clinic.**

  Ask the mother checking questions, such as:

  "How much will you give each time?"
  "When will you give it?" "For how many days?"
  "How will you measure the dose?"

  If you feel that the mother is likely to have problems when she gives her infant the medicine(s) at home, offer more **information**, **examples** and **practice**. An infant requires the correct treatment to get better.

## 4.3 MANAGE JAUNDICE

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 palms and soles appear to be yellow. Also, you should follow up infants with jaundice the next day to assess if jaundice is worsening. If the young infant is older than 3 weeks (21 days), refer to hospital for assessment.

## 4.4 TEACH THE MOTHER HOW TO TREAT LOCAL INFECTIONS AT HOME

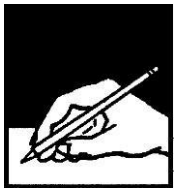
There are three types of local infection in a young infant that a mother can treat at home: an umbilicus which is red or draining pus, skin pustules, or thrush. These local infections are treated in the same way that mouth ulcers are treated in an older infant or young child. Twice each day for an infected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

**PLEASE OPEN YOUR CHART BOOKLET ON PAGE 43 AND READ THE BOX "TEACH THE MOTHER HOW TO TREAT LOCAL INFECTIONS AT HOME"**

Explain and demonstrate the treatment to the mother. Then watch her and guide her as needed while she gives the treatment to her infant. Ask her to return for follow-up on day 4, or sooner if the infection worsens. Explain that she should stop using gentian violet after 5 days (for umbilical or skin infection) or 7 days (for thrush). 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.



## EXERCISE G

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

Part A:

Review the seven cases used in Exercises B and E. For each case:

1) Review the infant's assessment results and classifications that you have written, to remind you of the infant's condition. Note that some of the young infants move only when stimulated and one does not suckle at all.

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

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

Part B:

Read the additional information below. Then further assess and classify the young infant. Based on the further assessment, list the actions to take, including any treatments, dosages and schedule for antibiotics, and advice to give to the mother.

**Case 7: Naheed**

When the health worker explains to the mother that Naheed is very sick and needs to be taken to the hospital urgently, her mother explains that it is just not possible for her to take Naheed to the hospital which is 4 hours away. She has left 4 small children at home alone and her husband is gone to work for the week in another town. They have just recently moved to the village and she does not know many people there. She has no money for the transportation or medicines or food. There is no one to help with the children and no way to get any money quickly. She also is certain that her husband will be very angry with her if she leaves the house and the children overnight. She is extremely distressed but says that she just cannot take Naheed to the hospital.

The health worker reassesses Naheed using the table on page 12 of the chart booklet, "Where Referral is Refused or not Possible, Further Assess and Classify the Young Infant with Possible Severe Bacterial Infection or Very Severe Disease."

Naheed is not feeding well, but she is feeding. She is awake and cries weakly. There is no cyanosis or vomiting. Her fontanelle feels normal.

The health worker recalls that Naheed did not have fever or low temperature, chest indrawing, or fast breathing.

1) **What is Naheed's further classification?**

2) **Can she be treated as an outpatient?**

3) **List below all the treatments to give Naheed including the dosage and schedule of any medicines.**

4) **List all the points of advice to teach her mother.**

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

## 4.5 TREAT DIARRHOEA

### 4.5.1 PLAN B: TREAT SOME DEHYDRATION WITH ORS

This section describes Plan B, treatment of a young infant who has diarrhoea with SOME DEHYDRATION. Plan B includes an initial treatment period of 4 hours in the clinic. During the 4 hours, the mother slowly gives a recommended amount of ORS solution. The mother gives it by spoonfuls or sips. It is helpful to have an ORT corner in your clinic.

A young infant who has a severe classification and SOME DEHYDRATION needs urgent referral to hospital. Do ***not*** try to rehydrate the young infant before he leaves. Quickly give the mother some ORS solution. Show her how to give frequent sips of it to the infant on the way to the hospital.

Otherwise, if a young infant who has SOME DEHYDRATION needs treatment for other nonsevere problems, you should start treating the dehydration first. Then provide the other treatments.

After 4 hours, reassess and classify the young infant for dehydration using the chart on page 4. If the signs of dehydration are gone, the infant is put on Plan A. If there is still some dehydration, the infant repeats Plan B. If the infant now has SEVERE DEHYDRATION, the infant would be referred to a hospital urgently.

Now study Plan B.

**PLEASE OPEN YOUR CHART BOOKLET ON PAGE 44 AND READ THE BOX "PLAN B: TREAT FOR SOME DEHYDRATION WITH ORS"**

- **DETERMINE AMOUNT OF ORS TO GIVE DURING FIRST 4 HOURS.**

Use the chart in Plan B to determine how much ORS to give. A range of amounts is given. Look below the infant's weight to find the recommended amount of ORS to give.

The amounts shown in the box are to be used as guides. The weight of the infant, the degree of dehydration and the number of stools passed during rehydration will all affect the amount of ORS solution needed. The infant will usually want to drink as much as he needs. If the infant wants more or less than the estimated amount, give him what he wants.

Another way to estimate the amount of ORS solution needed (in ml) is described below. Multiply the infant's weight (in kilograms) by 75. For example, an infant weighing 3.5 kg would need:

3.5 kg X 75 ml = 260 ml of ORS solution in 4 hours

Notice that this amount fits in the range given in the box; it will save you this calculation. Giving ORS solution should not interfere with a breastfed baby's normal feeding. The mother should pause to let the baby breastfeed whenever the baby wants to, and then resume the ORS solution. For young infants who are not breastfed, the mother should give 50-100 ml clean water during the first 4 hours in addition to the ORS solution.

➢ **SHOW THE MOTHER HOW TO GIVE ORS SOLUTION.**

Find a comfortable place in the clinic for the mother to sit with her young infant. Tell her how much ORS solution to give over the next 4 hours. Show her the amount in units that are used in your area. Show her how to give a spoonful frequently. Sit with her while she gives the infant the first few sips from a cup or spoon. Ask her if she has any questions.

If the infant vomits, the mother should wait about 10 minutes before giving more ORS solution. She should then give it more slowly.

Encourage the mother to pause to breastfeed whenever the infant wants to. When the infant finishes breastfeeding, resume giving the ORS solution again.

Show the mother where she can change the infant's nappy. Show her where to wash her hands afterwards.

Check with the mother from time to time to see if she has problems. If the young infant is not drinking the ORS solution well, try another method of giving the solution. You may try using a dropper or a syringe without the needle.

While the mother gives ORS solution at the clinic during the 4 hours, there is plenty of time to teach her how to care for her young infant. However, the first concern is to rehydrate the infant. When the infant is obviously improving, the mother can turn her attention to learning. Teach her about mixing and giving ORS solution and about Plan A. It is a good idea to have printed information that the mother can study while she is sitting with her infant. The information can also be reinforced by posters on the wall.

 **AFTER 4 HOURS:**

After 4 hours of treatment on Plan B, reassess the infant using the *ASSESS AND CLASSIFY* chart. Classify the dehydration. Choose the appropriate plan to continue treatment.

**Note:** Reassess the infant ***before*** 4 hours if the infant is not taking the ORS solution or seems to be getting worse.

If the infant has improved and has NO DEHYDRATION, choose Plan A. Teach the mother Plan A if you have not already taught her during the past 4 hours. Before the mother leaves the clinic, ask good checking questions. Help the mother solve any problems she may have giving the infant extra fluid at home.

**Note:** If the infant's eyes are puffy, it is a sign of overhydration. It is not a danger sign or a sign of hypernatraemia. It is simply a sign that the infant has been rehydrated and does not need any more ORS solution at this time. The infant should be given only breastmilk. The mother should give ORS solution according to Plan A when the puffiness is gone.

If the young infant still has SOME DEHYDRATION, choose Plan B again. The young infant should continue to breastfeed frequently. If the clinic is closing before you finish the treatment, tell the mother to continue treatment at home.

If the infant is worse and now has SEVERE DEHYDRATION, you will need to refer to a hospital for Plan C (intravenous fluids for correcting dehydration).

 **IF THE MOTHER MUST LEAVE BEFORE COMPLETING TREATMENT:**

Sometimes a mother must leave the clinic while her infant is still on Plan B, that is, before the infant is rehydrated. In such situations, you will need to:

* Show the mother how to prepare ORS solution at home. Have her practice this before she leaves.
* Show her how much ORS solution to give to complete the 4-hour treatment at home.
* Give her enough packets to complete rehydration. Also give her 2 more packets as recommended in Plan A.
* Explain the 3 Rules of Home Treatment:

1. GIVE EXTRA FLUID

   Explain how much ORS solution to give after each loose stool.

2. CONTINUE FEEDING

   Instruct her how to continue frequent breastfeeding.

3. WHEN TO RETURN

   Teach her the signs to bring a young infant back immediately. These signs are on the *COUNSEL THE MOTHER* chart (page 20 of the chart booklet).

## 4.5.2 PLAN A: TREAT DIARRHOEA AT HOME

**PLEASE OPEN YOUR CHART BOOKLET ON PAGE 44 of CHART BOOKLET AND READ THE BOX "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, and then give the ORS solution. Remind the mother to stop giving ORS solution after the diarrhoea has stopped.

## 4.6 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.

## 4.7 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 head and body in line
- Infant approaches breast with nose opposite to the nipple
- Infant held close to the mother's body, 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

Young infant***'s body close, facing breast***

Young infant***'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.

**PLEASE OPEN YOUR CHART BOOKLET PAGE 45 AND READ**
**THE BOX "TEACH CORRECT POSITIONING AND ATTACHMENT FOR BREASTFEEDING"**

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 young infant 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 breastfeed before the infant wants to.

If the infant is **still** not suckling well, this infant should be referred urgently to hospital.

## 4.8 TEACH THE MOTHER HOW TO EXPRESS BREASTMILK

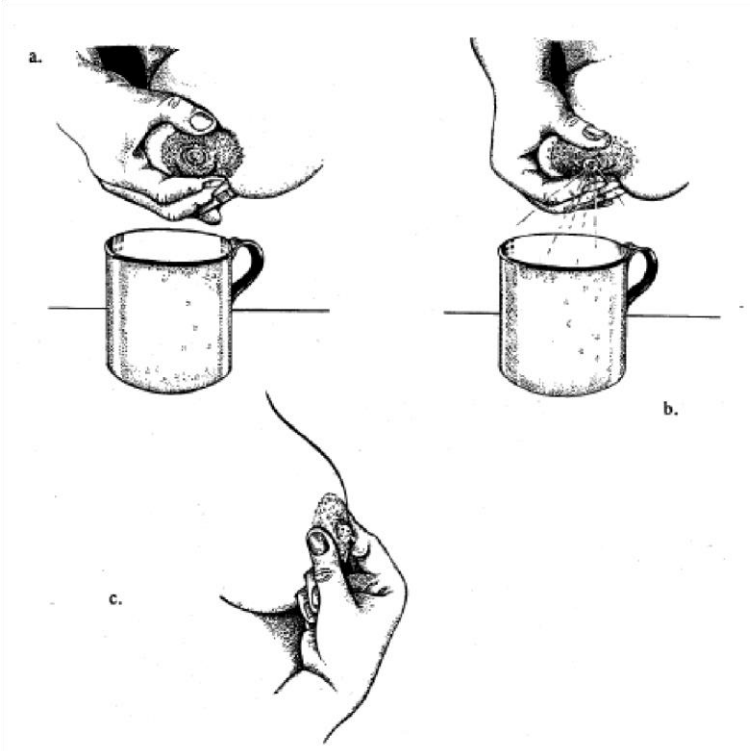
Expression of breastmilk is usually required for feeding infants who do not suck effectively but are able to swallow effectively (as in the case of low birth weight babies). Expressing milk is also useful to relieve engorgement, feed a sick young infant who cannot suckle enough, keep up the supply of breastmilk when a mother or young infant is ill or to leave breastmilk for a young infant 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 breast-milk production to begin, in the same way that a young infant suckling soon after delivery helps breast-milk production to begin. She should express as much as she can as often as her young infant 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.

**PLEASE OPEN YOUR CHART BOOKLET PAGE 45AND READ**
**THE BOX "TEACH THE MOTHER HOW TO EXPRESS BREASTMILK"**

## 4.9 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 young infant, for the young infant to feed himself. The person who feeds a young infant by cup has to hold the young infant 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 young infant to control his own intake.

**PLEASE OPEN YOUR CHART BOOKLET ON PAGE 45 AND**

**READ**

**THE BOX "TEACH THE MOTHER HOW TO FEED BY A CUP"**

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 young infant, the cup of milk and the spoon. Some mothers give up spoon feeding before the young infant 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 young infant enough. Also, if a young infant is very ill, for example with difficult breathing, it is sometimes easier to feed him with a spoon for a short time.

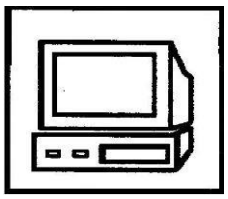
If a mother is expressing more than her low birth weight young infant needs, let her express the second half of the milk from each breast into a different container. Let her offer the second half of the expressed breastmilk first. Her young infant gets more hindmilk, which helps him to get the extra energy that he needs. This helps a young infant 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. The mother should 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 re-lactation. If the mother is interested, a breastfeeding counsellor may be able to help her to overcome difficulties and begin breastfeeding again.

  Refer a mother who does not breastfeed about choosing and correctly preparing an appropriate breastmilk substitute to the health facility.

Follow-up any young infant with a feeding problem on day 3. This is especially important if you are recommending a significant change in the way the infant is fed.



## EXERCISE H

**Part 1 - Video**

You will watch a video demonstration of the steps to help a mother improve her young infant's positioning and attachment for breastfeeding. You will also watch a video demonstration of expression of breastmilk and feeding by a cup.

**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 in line | Infant approaches breast with nose opposite the nipple | Infant held close to mother's body | Infant's whole body supported | |
| 77 | yes | yes | Yes | Yes | |
| 78 | yes | yes | Yes | Yes | |

| Photo | Signs of Good Positioning | | | | Comments on attachment |
|---|---|---|---|---|---|
| | Infant's head and body in line | Infant approaches breast with nose opposite to the nipple | Infant held close to mother's body | Infant's whole body supported | |
| 79 | no - neck turned so not in line with body | no | no - turned away from mother's body | No | Not well attached: areola equal above top lip and below bottom lip, mouth not wide open, lower lip not turned out. |
| 80 | | | | | |
| 81 | | | | | |
| 82 | | | | | |

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

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

It is important to maintain the body temperature of the new-born between 36.5 and 37.4$^{o}$C. Low temperature in the new-born has an adverse impact on the sick new-born 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.

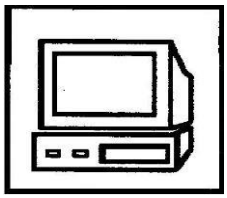
Advise the mother to keep the young infant in her bed in a warm room (with the room temperature at least 25$^{o}$C). Ask her to avoid bathing the low weight infant and to keep the infant dry at all times. Ask the mother to periodically feel the hands and feet of the infant to make sure that they are 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 new-born.

**PLEASE OPEN YOUR CHART BOOKLET ON PAGE 47 AND READ THE BOX "TEACH THE MOTHER HOW TO KEEP THE LOW WEIGHT INFANT WARM AT HOME"**

For keeping the young infant in skin to skin contact, provide privacy to the mother and request her to sit or recline comfortably:

1) Ask her to undress the young infant gently, except for cap, nappy and socks.
2) Place the young infant prone on mother's chest in an upright and extended posture, between her breasts, in skin to skin contact.
3) Turn young infant's head to one side to keep airways clear.
4) Wrap the young infant-mother duo with a blanket or shawl to hold the infant in place.
5) Cover the young infant with mother's blouse or gown. Then cover the duo with a shawl or blanket as appropriate for the climate.
6) Ask the mother to breastfeed the young infant 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 young infant frequently.



**EXERCISE I**

You will watch a video demonstration of how to help the mother to keep a low weight infant warm at home.

## 4.11 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.

**PLEASE OPEN YOUR CHART BOOKLET ON PAGE 48 AND READ THE BOX "ADVISE THE MOTHER TO GIVE HOME CARE TO THE YOUNG INFANT"**

**EXCLUSIVELY BREASTFEED THE YOUNG INFANT:**

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

**MAKE SURE THE YOUNG INFANT IS KEPT WARM AT ALL TIMES:**

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

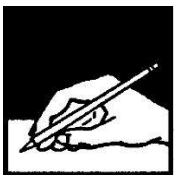
**WHEN TO RETURN:**

Tell the mother when to return for a ***follow-up visit***. Use the Follow Up Visit box to determine when the infant should be brought back, according to the infant's classifications.

Also teach the mother ***when to return immediately***. The signs mentioned in the box are particularly important signs to watch for. Teach the mother these 8 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.

Finally, counsel the mother about her own health.

## EXERCISE J



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

Review the case in Exercise E: Case 2 - Sajda. Refer to the *YOUNG INFANT* charts as needed.

For this case:

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

- Answer the additional questions below about treating each case.

**Case 2: Sajda**

1. In addition to treatment with antibiotics, Sajda 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. Sajda 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 Sajda's mother about when to return?

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

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

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

Follow-up visits are recommended for young infants who are classified as CLINICAL SEVERE INFECTION where Referral is Refused or Not Possible, PNEUMONIA or SEVERE PNEUMONIA, LOCAL INFECTION, JAUNDICE, DIARRHOEA, FEEDING PROBLEM OR LOW WEIGHT.

Instructions for carrying out follow-up visits for the sick young infant age up to 2 months are on pages 48-51 of the chart booklet.

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 POSSIBLE SERIOUS BACTERIAL INFECTION OR 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 POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE or a new problem, locate the section of the *YOUNG INFANT* charts with the heading "Give Follow-Up Care for the 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.

## 5.1 CLINICAL SEVERE INFECTION WHERE REFERRAL WAS REFUSED OR NOT POSSIBLE

Infants having CLINICAL SEVERE INFECTION who are treated at home need close follow up for signs of deterioration. At each contact for treatment such as for gentamicin injection and on day 4 of treatment, assess the infant for signs of deterioration. See page 48 of the chart booklet.

Refer the young infant urgently if:

- the infant becomes worse after treatment is started or
- any new sign of CLINICAL SEVERE INFECTION appears while on treatment or
  any sign of CLINICAL SEVERE INFECTION is still present after day 8 of treatment
  or
- If no improvement on day 4 after 3 full days of treatment.

If the young infant is improving, complete the 2 days (or 7 days) treatment with IM gentamicin. Ask the mother to continue giving the amoxicillin twice daily until all the tablets are finished.

## 5.2 PNEUMONIA OR SEVERE PNEUMONIA

When a young infant classified as having PNEUMONIA OR SEVERE PNEUMONIA returns for follow-up on day 4 of treatment, follow the instructions in the relevant box in the chart booklet on page 22. Reassess the young infant for Possible Serious Bacterial Infection or Very Severe Disease, Pneumonia, and Local Infection as on page 48.

- Refer the young infant if:
  - the infant becomes worse after treatment is started or
  - any new sign of VERY SEVERE DISEASE appears while on treatment.
- If the young infant is improving, ask the mother to continue giving the oral amoxicillin twice daily until all the tablets are finished.
- Ask the mother to bring the young infant back in 4 more days.
- Young infants with fast breathing alone should be checked as often as possible but it is mandatory to do so on day 4 of treatment, that is, after 3 full days of treatment have been completed.

## 5.3 LOCAL INFECTION

When a young infant classified as having LOCAL INFECTION returns for follow-up on day 4 of treatment, follow the instructions in the relevant box in the chart booklet on page 49.

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 the **skin pustules are the same or worse** than before.
- 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 a total of 5 days (cleaning and applying gentian violet to the skin pustules or umbilicus).

## 5.4 JAUNDICE

When a young infant classified as having JAUNDICE returns for follow-up on day 2, follow the instructions in the relevant box on page 49.

At follow up, assess if the infant has yellow palms or soles.

- If the infant has yellow palms or soles, classify as SEVERE JAUNDICE and refer urgently to a hospital.
- If the young infant does not have yellow palms or soles but jaundice has not decreased compared to the initial visit, continue to follow up daily until jaundice starts decreasing.
- If jaundice has started decreasing, reassure the mother and ask her to continue home care. Ask her to return for another follow-up visit at 3 weeks of age.
- If a young infant continues to have jaundice beyond 3 weeks of age, refer to a hospital for further assessment.

## 5.5 DIARRHOEA

When the young infant classified as having DIARRHOEA returns for follow-up on day 3, follow the instructions in the box on page 50

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.

- If the infant is **dehydrated**, use the classification table on the *YOUNG INFANT* chart to classify the dehydration and select a treatment plan.
- 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 (possible serious bacterial infection).
- If the infant's signs are improving, tell the mother to continue giving the infant fluids and breastfeeding according to plan A.

## 5.6 FEEDING PROBLEM

When a young infant who had a feeding problem returns for follow-up on day 3 of treatment, follow the instructions in the relevant box on page 50. Reassess the feeding by asking the questions in "Then Check for Feeding Problem or Low Weight." Assess breastfeeding if the infant is breastfed.

Refer to the young infant's chart or notes for a description of the feeding problem found at the initial visit and previous recommendations. Ask the mother to describe how she has been carrying out these recommendations and ask about any problems she encountered in doing so.

- Counsel the mother about new or continuing feeding problems. Refer to the recommendations in the box "Counsel the Mother About Feeding Problems" on the *COUNSEL* chart and the box "Teach Correct Positioning and Attachment for Breastfeeding" on the *YOUNG INFANT* chart.

  For example, you may have asked a mother to stop giving drinks of water or juice in a bottle, and to breastfeed more frequently and for longer. You will assess how many times she is now breastfeeding in 24 hours and whether she has stopped

  giving the bottle. Then advise and encourage her as needed.
- If the young infant is low weight for age, ask the mother to return 14 days after the initial visit. At that time, you will assess the young infant's weight again. Young infants are asked to return sooner to have their weight checked than older infants and young children. This is because they should grow faster and are at higher risk if they do not gain weight.

## 5.7 LOW WEIGHT FOR AGE

When a young infant who was classified as LOW WEIGHT FOR AGE returns for follow-up on day 14 (or on day 7 if the infant is receiving no breastmilk), follow the instructions in the relevant box on page 51. 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 for Age." Assess breastfeeding if the young infant is breastfed.

- 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.
- 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 birthweight will still be low weight for age, but will be feeding and gaining weight well.
- 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.

### 5.8 THRUSH

When a young infant who had thrush returns for follow-up on day 3 of treatment, follow the instructions in the relevant box on page 51.

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 more days.

## CONCLUSION

This updated training manual has introduced the new WHO recommendations that describe effective simplified antibiotic treatment for some young infants who have possible serious bacterial infection or very severe disease but cannot go for care at hospital. Using a new scheme for further assessing and classifying these young infants where referral is refused or not possible, health workers can determine whether a young infant can be treated as an outpatient or must be referred.

The combination of daily intramuscular injections of gentamicin given by a trained health worker, plus 7 days of oral amoxicillin given by the mother at home, can effectively treat most young infants who are classified on further assessment as Clinical Severe Infection. Infants who are classified on further assessment as Severe Pneumonia can be treated with oral amoxicillin for 7 days at home.

Close follow-up of all sick young infants is essential, and particularly for those who receive simplified antibiotic treatment, in order to promptly identify any infant who does not improve on treatment. Then the young infant can be referred or assisted to go urgently to hospital for further treatment.

Although hospital management including other medicines and supportive care remains the best care for young infants with Possible Severe Bacterial Infection or Very Severe Disease, these simplified antibiotic treatment regimens give hope of saving a young infant's life in those circumstances where referral is refused by the family or otherwise is not possible.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