MODULE-2

INTEGRATED MANAGEMENT OF NEONATAL AND CHILDHOOD ILLNESS

Assess and Classify the Sick Young Infant Age upto 2 months

CONTENTS

INTRODUCTION

A mother brings her young infant or sick child to the clinic for a particular problem or symptom. If you only assess the young infant or child for that particular problem or symptom, you might overlook other signs of disease. The young infant might have septicaemia, pneumonia, meningitis, low weight or a feeding problem. These diseases can cause death or disability if they are not treated.

The chart *ASSESS AND CLASSIFY THE SICK YOUNG INFANT AGE UP TO 2 MONTHS* describes how to assess and classify sick young infants so that signs of disease are not overlooked. According to the chart, you should ask the mother about the young infant's problem and check all young infants for possible bacterial infection / severe jaundice. Then ask about diarrhoea. If diarrhoea is present, ask additional questions to help classify diarrhoea. Check all young infants for feeding problem or malnutrition. Also check the young infant's immunization status and assess other problems the mother has mentioned.

Young infants have special characteristics that must be considered when classifying their illness. They can become sick and die very quickly from serious bacterial infections. They frequently have only general signs such as few movements, fever, or low body temperature. Mild chest indrawing is normal in young infants because their chest wall is soft. For these reasons, assessment, classification and treatment of young infants is somewhat different from that of older infants or young children. There is a recording form for young infants, which lists signs to assess in a young infant. (A copy of this form is in the chart booklet).

The charts and modules for the sick young infant do not include resuscitation of a newborn or management of the events at the time of birth.

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
* assessing and classifying a young infant for jaundice
* assessing and classifying a young infant with diarrhoea
* checking for a feeding problem or malnutrition, assessing breastfeeding and classifying feeding, immunization

1.0 ASK THE MOTHER WHAT THE YOUNG INFANT'S PROBLEMS ARE

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 *ASSESS & CLASSIFY THE SICK YOUNG INFANT* chart describe what you should do when a mother brings her young infant to the clinic because the infant is sick. The chart should not be used for an infant with an injury or burn.

When patients arrive at most clinics, clinic staff identify the reason for the infant's visit. Clinic staff obtains the infant's weight and temperature and record them on a patient chart, another written record, or on a small piece of paper. Then the mother and her infant see a doctor.

When you see the mother and her sick infant:

* **Greet the mother appropriately** and ask her to sit with her infant.
  You need to know the infant's age so you can choose the right case management chart. Look at the infant's record to find the infant's age.

  - If the infant is up to 2 months, assess and classify the young infant according to the steps on the *ASSESS AND CLASSIFY THE SICK YOUNG INFANT* chart.

  - If the child is age 2 months up to 5 years, assess and classify the child according to the steps on the *ASSESS AND CLASSIFY THE SICK CHILD AGE 2 MONTHS UP TO 5 YEARS* chart. (You will learn more about managing sick children age 2 months up to 5 years later in the course.)

  Look to see if the young infant's weight and temperature have been measured and recorded. If not, weigh the infant and measure his temperature later when you assess and classify the infant's main symptoms. Do not undress or disturb the infant now.

* **Ask the mother what the young infant's problems are.**
  Record what the mother tells you about the infant's problems.

  An important reason for asking this question is to open good communication with the mother. Using good communication helps to reassure the mother that her infant will receive good care. When you treat the infant's illness later in the visit, you will need to teach and advise the mother about caring for her sick infant at home. So it is important to have good communication with the mother from the beginning of the visit.

  To use good communication skills:
  - **Listen carefully to what the mother tells you**. This will show her that you are taking her concerns seriously.

- **Use words the mother understands**. If she does not understand the questions you ask her, she cannot give the information you need to assess and classify the infant correctly.

- **Give the mother time to answer the questions**. For example, she may need time to decide if the sign you asked about is present.

- **Ask additional questions when the mother is not sure about her answer**. When you ask about a main symptom or related sign, the mother may not be sure if it is present. Ask her additional questions to help her give clearer answers.

* **Determine if this is an initial or follow-up visit for this problem.**
If this is the infant's first visit for this episode of an illness or problem, then this is an ***initial*** visit.

If the young infant was seen a few days ago for the same illness, this is a ***follow-up*** visit. A follow-up visit has a different purpose than an initial visit. During a follow-up visit, the doctor finds out if the treatment he gave during the initial visit has helped the infant. If the young infant is not improving or is getting worse after a few days, the doctor refers the infant to a hospital or changes the infant's treatment.

How you find out if this is an initial or follow-up visit depends on how your clinic registers patients and identifies the reason for their visit. Some clinics give mothers follow-up slips that tell them when to return. In other clinics the doctor writes a follow-up note on the multi-visit card or chart. Or, when the patient registers, clinic staff asks the mother questions to find out why she has come.

You will learn how to carry out a follow-up visit later in the course. The examples and exercises in this section describe infants who have come for initial visit. If it is an initial visit, follow the sequence of steps on the chart to assess and classify a sick young infant:

* Check for signs of possible bacterial infection and jaundice. Then classify the young infant based on the signs found.
* Ask about diarrhoea. If the infant has diarrhoea, assess the related signs. Classify the young infant for dehydration. Also classify for persistent diarrhoea and dysentery if present.
* Check for feeding problem or malnutrition. This may include assessing breastfeeding. Then classify feeding.
* Check the young infant's immunization status.
* Assess any other problems.

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

1.1 CHECK THE YOUNG INFANT FOR POSSIBLE SERIOUS BACTERIAL INFECTION/ JAUNDICE

This assessment step is done for ***every*** sick young infant. In this step you are looking for signs of bacterial infection, especially a serious infection. A young infant can become sick and die ***very quickly*** from serious bacterial infections such as pneumonia, sepsis and meningitis.

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 five signs, that is, count breathing and look for chest indrawing, nasal flaring, grunting and bulging fontanelle.

To assess the next few signs, you will pick up the infant, look at the skin all over his body and measure his temperature. By this time he will probably be awake. Then you can see whether he is lethargic or unconscious and observe his movements.

ASK THE MOTHER WHAT THE YOUNG INFANT'S PROBLEMS ARE

- Determine if this is an initial or follow-up visit for this problem.
  - if follow-up visit, use the follow-up instructions on the bottom of this chart.
  - if initial visit, assess the young infant as follows:

CHECK FOR POSSIBLE BACTERIAL INFECTION/ JAUNDICE

ASK:	***LOOK, LISTEN, FEEL:***
• Has the infant had convulsions?	• Count the breaths in one minute. Repeat the count if elevated. • Look for severe chest indrawing. • Look for nasal flaring. • Look and listen for grunting. • Look and feel for bulging fontanelle. } YOUNG INFANT MUST BE CALM • Look for pus draining from the ear. • Look at the umbilicus. Is it red or draining pus? • Look for skin pustules. Are there 10 or more skin pustules or a big boill? • Measure axillary temperature (if not possible, feel for fever or low body temperature). • See if the young infant is lethargic or unconscious - • Look at the young infant's movements. Are they less than normal? • Look for jaundice Are the palms and soles yellow ?

How to assess each sign is described below.

ASK: Has the infant had convulsions?
During a convulsion, the young infant's arms and legs stiffen because the muscles are contracting. The young infant may lose consciousness. 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."

LOOK: Count the breaths in one minute. Repeat the count if elevated.
You must count the breaths the young infant takes in one minute to decide if the young infant has fast breathing. The young infant must be quiet and calm when you look and listen to his breathing. If the young infant is frightened, crying or angry, you will not be able to obtain an accurate count of the infant's breaths.

Tell the mother you are going to count her infant's breathing. Remind her to keep her infant calm. If the infant is sleeping, do not wake him.

To count the number of breaths in one minute:

1. Use a watch with a second hand or a digital watch.

    a) Ask a doctor to watch the second hand and tell you when 60 seconds have passed. You look at the infant's chest and count the number of breaths.

    b) If you cannot find a doctor to help you, put the watch where you can see the second hand. Glance at the second hand as you count the breaths the young infant takes in one minute.

2. Look for breathing movement anywhere on the infant's chest or abdomen. Usually you can see breathing movements even on an infant who is dressed. If you cannot see this movement easily, ask the mother to lift the infant's shirt. If the young infant starts to cry, ask the mother to calm the infant before you start counting.

    If you are not sure about the number of breaths you counted (for example, if the young infant was actively moving and it was difficult to watch the chest, or if the young infant was upset or crying), repeat the count.

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.

Before you look for chest indrawing watch the young infant to determine when the young infant is breathing IN and when the young infant is breathing OUT.

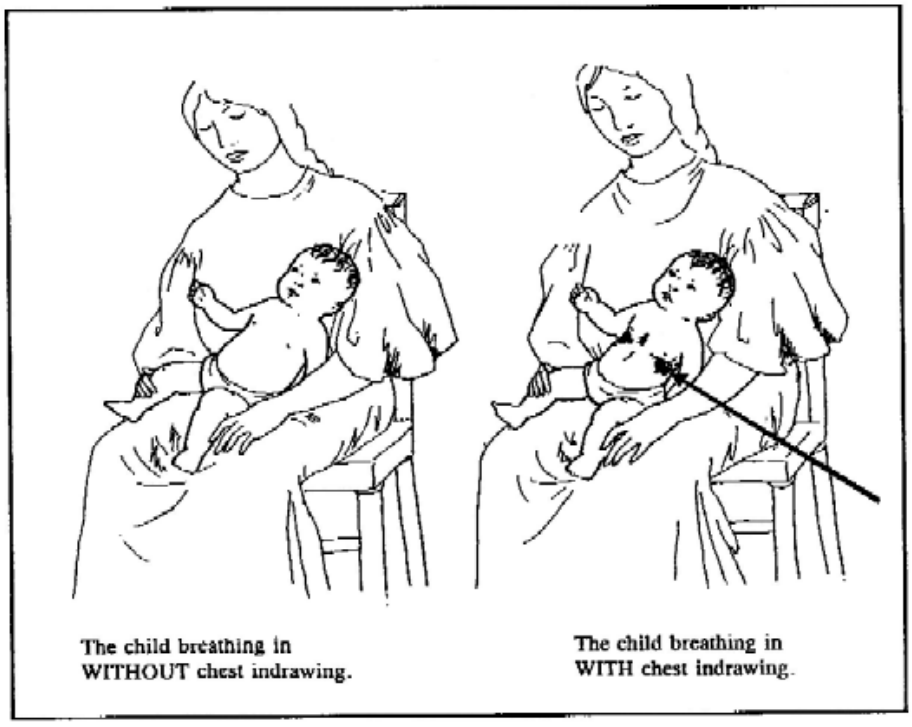
LOOK for severe chest indrawing.
If you did not lift the young infant's shirt when you counted the infant's breaths, ask the mother to lift it now. Look for chest indrawing when the young infant breathes IN. Look at the lower

chest wall (lower ribs). The young infant has chest indrawing if ***the lower chest wall goes IN when the infant breathes IN***. Chest indrawing occurs when the effort the young infant needs to breathe in is much greater than normal. In normal breathing, the whole chest wall (upper and lower) and the abdomen move OUT when the young infant breathes IN. When chest indrawing is present, the lower chest wall goes IN when the young infant breathes IN.

If you are not sure that chest indrawing is present, look again. If the young infant's body is bent at the waist, it is hard to see the lower chest wall move. Ask the mother to change the infant's position so he is lying flat in her lap. If you still do not see the lower chest wall go IN when the infant breathes IN, the infant does not have chest indrawing. For chest indrawing to be present, it must be clearly visible and present all the time. If you only see chest indrawing when the young infant is crying or feeding, the young infant does not have chest indrawing.

If only the soft tissue between the ribs goes in when the infant breathes in (also called intercostal indrawing or intercostal retractions), the infant does not have chest indrawing. In this assessment, chest indrawing is lower chest wall indrawing. It does not include "intercostal indrawing."

Mild chest indrawing is normal in a young infant because the chest wall is soft. Severe chest indrawing is very deep and easy to see. Severe chest indrawing is a sign of pneumonia and is serious in a young infant.



LOOK for nasal flaring.

Nasal flaring is widening of the nostrils when the young infant breathes in.

Normal position of nostrils

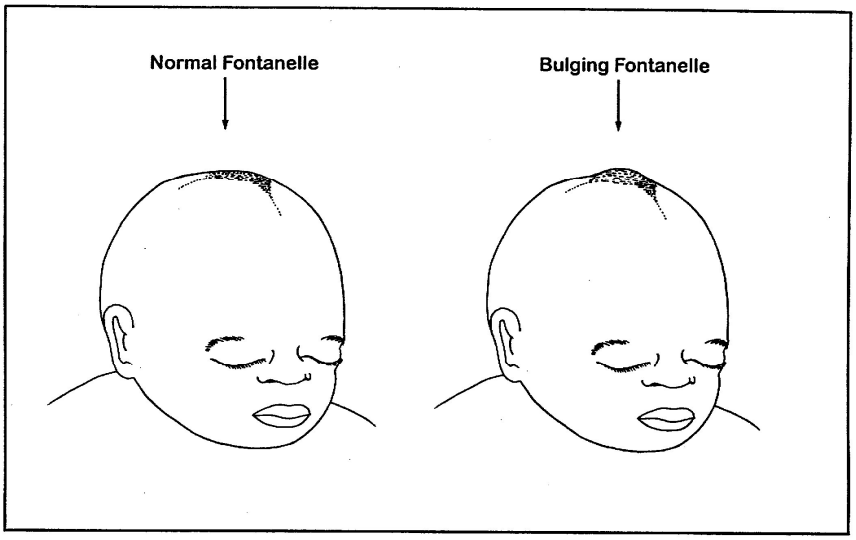
Nostrils flare when infant breathes in

LOOK and LISTEN for grunting.

Grunting is the soft, short sounds a young infant makes when breathing out. Grunting occurs when an infant is having trouble breathing.

LOOK and FEEL for bulging fontanelle.

The fontanelle is the soft spot on the top of the young infant's head, where the bones of the head have not formed completely. Hold the young infant in an upright position. The infant must not be crying. Then look at and feel the fontanelle. If the fontanelle is bulging rather than flat, this may mean the young infant has meningitis

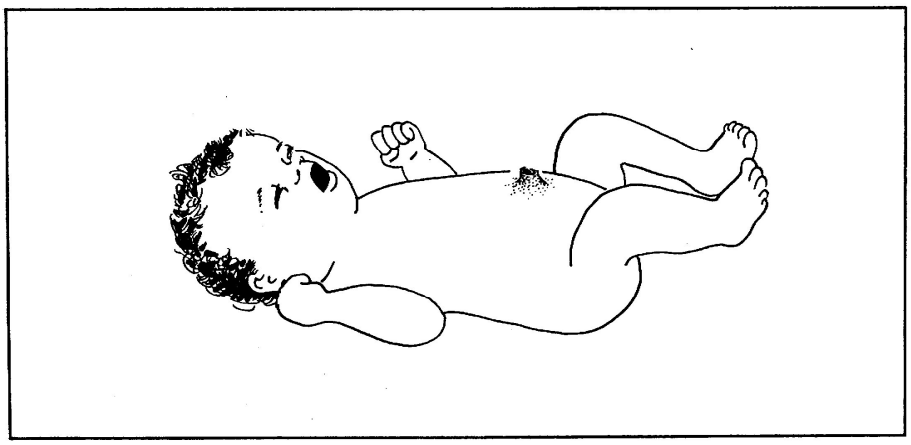


LOOK for pus draining from the ear.

A young infant with pus draining from the ear has an ear infection. Ear infections are the most common cause of deafness among developing country children.

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

There may be some redness of the end of the umbilicus or the umbilicus may be draining pus (The cord usually drops from the umbilicus by one week of age).



LOOK for skin pustules. Are there 10 or more pustules or a big boil?

Examine the skin on the entire body. Skin pustules are red spots or blisters, which contain pus. If you see pustules, how many pustules are there? 10 or more pustules or a big boil indicate a serious infection.

FEEL: Measure axillary temperature (or feel for fever or low body temperature).

Fever (axillary temperature 37.5°C or more) is uncommon in the first two months of life. If a young infant has fever, this may mean the infant has a serious bacterial infection. In addition, 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 (36°C rectal temperature).

A thermometer that measures to a minimum of 35°C can be used to measure temperature. Keep the thermometer high in the axilla and then hold the young infant's arm against his body for 5 minutes before reading the temperature. If you do not have a thermometer, feel the infant's abdomen or axilla (armpit) and determine if it feels hot or cold to touch.

LOOK: See if the young infant is lethargic or unconscious.

Young infants often sleep most of the time, and this is not a sign of illness. Even when awake, a healthy young infant will usually not watch his mother and a doctor/doctor while they talk, as an older infant or young child would.

A lethargic young infant is not awake and alert when he should be. He may be drowsy and may not stay awake after a disturbance. If a young infant does not wake up during the assessment, flick the soles of 2-3 times. Look to see if the infant wakens and if he

stays awake. If the young infant shows no response or does not stay awake after some response, he is lethargic or unconscious.

LOOK at the young infant's movements. **Are they less than normal?**

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 not awake ask if he has just been fed. An infant may be asleep after a feed and therefore may have less than normal movements, which may be normal. To label the sign 'less than normal movements' ask the mother if the young infant's movements are less than normal .Observe the infant's movements while you do the assessment.

LOOK for jaundice

Jaundice is the visible manifestation of chemical bilirubinemia. Yellow discolouration of skin is visible in a neonate when serum bilirubin is more than 5 mg/dl. Almost all neonates may have 'physiological jaundice' during the first week of life due to several physiological changes taking place after birth. Physiological jaundice usually appears between 48-72 hours of age, maximum intensity is seen on 4-5th day in term and 7th day in preterm neonates and disappears by 14 days. Physiological jaundice does not extend to palms and soles, and does not need any treatment. However, if jaundice appears on first day, persists for 14 days or more and extends to palms and soles it is severe jaundice and requires urgent attention.

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

Using the Young Infant Recording Form

Your facilitator will now show you a Young Infant Recording form.

Below is part of a Young Infant Recording Form.

The top lines are for recording name, age, sex, weight, temperature, the infant's problems and whether this is an initial or follow up visit.

The next sections are for assessing and classifying POSSIBLE BACTERIAL INFECTION / JAUNDICE, DIARRHOEA and FEEDING PROBLEM AND MALNUTRITION. Study the example below. It has been completed to show part of the assessment results and classifications for the infant Swati.

MANAGEMENT OF THE SICK YOUNG INFANT AGE UP TO 2 MONTHS

Name: Swati Age: 3 weeks Sex: M___ F √ Weight: 3.0 kg Temperature: 37.0 ℃

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

ASSESS (Circle all sings present)		**CLASSIFY**
CHECK FOR POSSIBLE BACTERIAL INFECTION / JAUNDICE • Has the infant had convulsions?	• Count the breaths in one minute. 55 breaths per minute. Repeat if elevated _____ Fast breathing? • Look for severe chest indrawing. • Look for nasal flaring. • Look and listen for grunting. • Look and feel for bulging fontanelle. • Look for pus draining from the ear. • Look at umbilicus. Is it red or draining pus? • Look for skin pustules. Are there 10 or more skin pustules or a big boil? • Measure axillary temperature (if not possible, feel for fever or low body temperature): 37.5℃ or more (or feels hot)? Less than 35.5℃? Less than 36.5℃ but above 35.4℃ (or feels cold to touch)? • See if young infant is lethargic or unconscious. • Look at young infant's movements. Less than normal? • Look for jaundice. Are the palms and soles yellow?	Local Bacterial Infection

EXERCISE A

Part 1. Read the following case study and answer the questions about the case.

Case: Vidya

Vidya is 1 month old. She weighs 3.5 kg. The doctor/nurse measured her axillary temperature for 5 minutes using a clinical thermometer and found it to be 36.5^{o}C.

The doctor asked, "What are the infant's problems?" The mother said, "Vidya has cough since 2 days and is not breastfeeding well since yesterday." This is Vidya's initial visit for this problem.

The doctor first checks the young infant for signs of possible bacterial infection/ jaundice. His mother says that Vidya has not had convulsions. The doctor counts 64 breaths per minute. He repeats the count. The second count is 66 breaths per minute. He finds that Vidya has mild chest indrawing and no nasal flaring. She has no grunting. The fontanelle does not bulge. There is no pus in her ears, the umbilicus is normal, and there are no skin pustules. Vidya is calm and awake, and her movements are normal. She has no jaundice.

Now answer the following questions:

a. Write Vidya's name, age, sex, weight and temperature in the spaces provided on the top line of the form below.

b. Write Vidya's problem on the line after the question "Ask -- What are the infant's problems?"

c. Tick (✓) whether this is the initial or follow-up visit for this problem.

d. Does Vidya have a sign of possible serious bacterial infection?

MANAGEMENT OF THE SICK YOUNG INFANT AGE UP TO 2 MONTHS

Name: _____ Age _____ Sex: M___ F___ Weight: _____ kg Temperature: _____ ℃

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

ASSESS (Circle all sings present)		**CLASSIFY**
CHECK FOR POSSIBLE BACTERIAL INFECTION / JAUNDICE • Has the infant had convulsions?	• Count the breaths in one minute. _____ breaths per minute. Repeat if elevated _____ Fast breathing? • Look for severe chest indrawing. • Look for nasal flaring. • Look and listen for grunting. • Look and feel for bulging fontanelle. • Look for pus draining from the ear. • Look at umbilicus. Is it red or draining pus? • Look for skin pustules. Are there 10 or more skin pustules or a big boil? • Measure axillary temperature (if not possible, feel for fever or low body temperature): 37.5℃ or more (or feels hot)? Less than 35.5℃? Less than 36.5℃ but above 35.4℃ (or feels cold to touch)? • See if young infant is lethargic or unconscious. • Look at young infant's movements. Less than normal? • Look for jaundice. Are the palms and soles yellow?	

Part 2-- Video

You will watch a video of young infants. This will demonstrate how to assess a young infant for possible bacterial infection and show examples of the signs.

Review exercise

Count the breaths in one minute

Infant number	Breaths in one minute
1	
2	

Look for severe chest indrawing

Infant number	Severe chest indrawing
1	
2	
3	
4	
5	

Part 3 -- Photographs

- Study the photographs numbered 1 and 2 in the booklet. Read the explanation below for each photo.

  Photograph 1: Normal umbilicus in a newborn
  Photograph 2: An umbilicus with redness extending to the skin of the abdomen

Study the photographs numbered 3 through 5. Tick your assessment of the umbilicus of each of these young infants.

Umbilicus	**Normal**	**Redness or draining pus**
Photograph 3		
Photograph 4		
Photograph 5		

- Study the photographs numbered 6 through 9 in the booklet. Read the explanation below for each photo.

  Photograph 6: Many skin pustules
  Photograph 7: A big boil
  Photograph 8: Jaundice (Palms and soles not yellow)
  Photograph 9: Jaundice (Yellow palms and soles)

Study the photographs numbered 10 through 12. Tick your assessment of each of these young infants.

Skin	**Normal**	**Many pustules**	**A big boil**	**Jaundice**	**Yellow palms and soles**
Photograph 10					
Photograph 11					
Photograph 12					

The group will now discuss the photographs.

1.2 *CLASSIFICATION TABLES:*

Signs of illness and their classifications are listed on the *ASSESS & CLASSIFY THE SICK YOUNG INFANT* chart in classification tables. Most classification tables have three rows. Classifications are colour coded into Red, yellow or green. The colour of the rows tells you quickly if the young infant or the child has a serious illness. You can also quickly choose the appropriate treatment.

- A classification in a *Red* row needs urgent attention and referral or admission for inpatient care. This is a severe classification.

- A classification in a *yellow* row means that the young infant or the child needs an appropriate antibiotic or other treatment. The treatment includes teaching the mother how to give the oral drugs or to treat local infections at home. The doctor advises her about caring for the young infant or child at home and when she should return.

- A classification in a *green* row means the young infant or child does not need specific medical treatment such as antibiotics. The doctor teaches the mother how to care for her young infant or child at home. For example, you might advise her on feeding her sick young infant or child or giving fluid for diarrhoea.

Example: Look at the classification table for dehydration in infants with diarrhea on page 25. The red row is SEVERE DEHYDRATION, the yellow row is SOME DEHYDRATION and the green row is NO DEHYDRATION.

Depending on the combination of the young infant's signs and symptoms, the young infant is classified in either the red, yellow, or green row. The infant is classified only once in each classification table.

* * *

CLASSIFY ALL SICK YOUNG INFANTS FOR POSSIBLE BACTERIAL INFECTION/JAUNDICE

Classification in the young infant is slightly different from what has been described above. Classify all sick young infants for possible bacterial infection. Compare the infant's signs to signs listed and choose the appropriate classification. If the infant has any sign in the top row, select POSSIBLE SERIOUS BACTERIAL INFECTION. If the infant has none of the signs in the red row, but has any of the signs in the yellow row, classify him as LOCAL BACTERIAL INFECTION. Note that the classification table for bacterial infection does not have a green row.

If the infant has jaundice, choose an additional classification from the jaundice classification table. If the infant has signs in the red row classify as SEVERE JAUNDICE. If the infant has none of the signs in the red row, but has the sign in the yellow row, classify him as JAUNDICE.

If the infant has no signs of SERIOUS BACTERIAL INFECTION and temperature is between 35.5-36.4°C, choose the classification of LOW BODY TEMPERATURE (note that there is only one yellow classification for LOW BODY TEMPERATURE without signs of SERIOUS BACTERIAL INFECTION)

Here is the classification table for possible bacterial infection / jaundice.

SIGNS	CLASSIFY AS	IDENTIFY TREATMENT (Urgent pre-referral treatments are in bold print)
• Convulsions or • Fast breathing (60 breaths per minute or more) or • Severe chest indrawing or • Nasal flaring or • Grunting or • Bulging fontanelle or • 10 or more skin pustules or a big boil or • If axillary temperature 37.5°C or above (or feels hot to touch) or temperature less than 35.5°C (or feels cold to touch) or • Lethargic or unconscious or • Less than normal movements	**POSSIBLE SERIOUS BACTERIAL INFECTION**	➢ ***Give first dose of intramuscular ampicillin and gentamicin*** ➢ ***Treat to prevent low blood sugar*** ➢ ***Warm the young infant by skin to skin contact if temperature less than 36.5°C (or feels cold to touch) while arranging referral*** ➢ ***Advise mother how to keep the young infant warm on the way to the hospital*** ➢ ***Refer URGENTLY to hospital#***
• Umbilicus red or draining pus or • Pus discharge from ear or • < 10 skin pustules	**LOCAL BACTERIAL INFECTION**	➢ ***Give amoxycillin for 5 days.*** ➢ Teach mother to treat local infections at home. ➢ Follow up in 2 days
• Palms and soles yellow or • Age < 24 hours or • Age 14 days or more	**SEVERE JAUNDICE**	➢ ***Treat to prevent low blood sugar*** ➢ ***Warm the young infant by skin to skin contact if temperature less than 36.5°C (or feels cold to touch) while arranging referral*** ➢ ***Advise mother how to keep the young infant warm on the way to the hospital*** ➢ ***Refer URGENTLY to hospital#***
• Palms and soles not yellow	**JAUNDICE**	➢ Advise mother to give home care for the young infant ➢ Advise mother when to return immediately ➢ Follow up in 2 days
• Temperature between 35.5-36.4°C	**LOW BODY TEMPERATURE**	➢ Warm the young infant using Skin to Skin contact for one hour and REASSESS ➢ Treat to prevent low blood sugar

***How to use the classification table*:** After you have completed the assessment of the young infant for possible bacterial infection / jaundice, classify all Young infants for bacterial infection:

1. Look at the red (or top) rows.
   Does the young infant have any of the signs of possible serious bacterial infection?

If the young infant has any of the signs of possible serious bacterial infection, select the severe classification, POSSIBLE SERIOUS BACTERIAL INFECTION.

EXAMPLE: If the young infant has fast breathing, a sign in the red row, select the classification, POSSIBLE SERIOUS BACTERIAL INFECTION.

SIGNS	CLASSIFY AS
• Convulsions or • Fast breathing (60 breaths per minute or more) or • Severe chest indrawing or • Nasal flaring or • Grunting or • Bulging fontanelle or • 10 or more skin pustules or a big boil or • If axillary temperature 37.5°C or above (or feels hot to touch) or temperature less than 35.5°C (or feels cold to touch) or • Lethargic or unconscious or • Less than normal movements	**POSSIBLE SERIOUS BACTERIAL INFECTION**
• Umbilicus red or draining pus or • Pus discharge from ear or • < 10 skin pustules	

• Palms and soles yellow or • Age < 24 hours or • Age 14 days or more	
• Palms and soles not yellow	

• Temperature between 35.5-36.4 ° C	

2. If the young infant does not have the severe classifications, look at the yellow rows.

This young infant does not have a severe classification. Is the umbilicus red or draining pus? Is there pus discharge from ear? Does the young infant have < 10 skin pustules?

EXAMPLE: If the young infant has an umbilicus that is red and draining pus, a sign in the yellow row, and the young infant does not have a severe classification, select the classification, LOCAL BACTERIAL INFECTION.

SIGNS	CLASSIFY AS
• Convulsions or • Fast breathing (60 breaths per minute or more) or • Severe chest indrawing or • Nasal flaring or • Grunting or • Bulging fontanelle or • 10 or more skin pustules or a big boil or • If axillary temperature 37.5°C or above (or feels hot to touch) or temperature less than 35.5°C5°C (or feels cold to touch) or • Lethargic or unconscious or • Less than normal movements	
• Umbilicus red or draining pus or • Pus discharge from ear or • < 10 skin pustules	**LOCAL BACTERIAL INFECTION**

• Palms and soles yellow or • Age < 24 hours or • Age 14 days or more	
• Palms and soles not yellow	

• Temperature between 35.5-36.4°C	

3. Whenever you use a classification table, start with the top row. In each classification table, a young infant receives classifications in <u>one</u> colour only. If the infant has signs from more than one row, always select the more serious classification.

EXAMPLE: This young infant had convulsions immediately prior to being brought to the health facility and has umbilicus draining pus.

Classify this young infant with the more serious classifications -- POSSIBLE SERIOUS BACTERIAL INFECTION and <u>not</u> LOCAL BACTERIAL INFECTION.

SIGNS	CLASSIFY AS
• Convulsions or • Fast breathing (60 breaths per minute or more) or • Severe chest indrawing or • Nasal flaring or • Grunting or • Bulging fontanelle or • 10 or more skin pustules or a big boil or • If axillary temperature 37.5°C or above (or feels hot to touch) or temperature less than 35.5°C5°C (or feels cold to touch) or • Lethargic or unconscious or • Less than normal movements	**POSSIBLE SERIOUS BACTERIAL INFECTION**
• Umbilicus red or draining pus or • Pus discharge from ear or • < 10 skin pustules	

• Palms and soles yellow or • Age < 24 hours or • Age 14 days or more	
• Palms and soles not yellow	

• Temperature between 35.5-36.4°C	

4. Young infants have also to be classified for jaundice or Low Body temperature if present. You have to select an appropriate classification for these conditions too.

EXAMPLE: This 7 day old young infant has less than 10 skin pustules and jaundice not involving palms and soles

Classify this young infant as – LOCAL BACTERIAL INFECTION and JAUNDICE

SIGNS	CLASSIFY AS
• Convulsions or • Fast breathing (60 breaths per minute or more) or • Severe chest indrawing or • Nasal flaring or • Grunting or • Bulging fontanelle or • 10 or more skin pustules or a big boil or • If axillary temperature 37.5°C or above (or feels hot to touch) or temperature less than 35.5°C(or feels cold to touch) or • Lethargic or unconscious or • Less than normal movements	
• Umbilicus red or draining pus or • Pus discharge from ear or • < 10 skin pustules	**LOCAL BACTERIAL INFECTION**

• Palms and soles yellow or • Age < 24 hours or • Age 14 days or more	
• Palms and soles not yellow	**JAUNDICE**

• Temperature between 35.5-36.4°C	

Your facilitator will answer any questions you have about classifying illness according to the *ASSESS & CLASSIFY THE SICK YOUNG INFANT* chart.

***

Here is a description of each classification for POSSIBLE BACTERIAL INFECTION / JAUNDICE:

POSSIBLE SERIOUS BACTERIAL INFECTION

A young infant with signs in this classification may have a serious disease and be at high risk of dying. The infant may have pneumonia, sepsis or meningitis. It is difficult to distinguish between these infections in a young infant. Fortunately, it is not necessary to make this distinction for immediate management of these young infants.

A young infant with any sign of POSSIBLE SERIOUS BACTERIAL INFECTION needs urgent referral to hospital. Before referral, give a first dose of intramuscular antibiotics and treat to prevent low blood sugar.

Advising the mother to keep her sick young infant warm while referral is being arranged and on the way to the hospital is very important. Young infants have difficulty maintaining their body temperature. Low temperature alone can kill young infants.

LOCAL BACTERIAL INFECTION

A sick young infant classified as LOCAL BACTERIAL INFECTION has infection of umbilicus, ear or skin. This necessitates administration of an oral antibiotic, which can be given at home. The mother is taught how to treat local infection at home and she should return for follow-up in 2 days to be sure the infection is improving. Bacterial infections can progress rapidly in young infants.

SEVERE JAUNDICE

A sick young infant with SEVERE JAUNDICE is at risk of suffering from bilirubin encephalopathy (kernicterus), or might need surgical intervention for neonatal cholestasis. Therefore, such an infant needs to be referred to appropriate health facility where the young infant can be investigated and appropriately treated. Such infants also need to be treated to prevent low blood sugar, to be kept warm while referral is being arranged and on the way to the hospital.

JAUNDICE

A sick young infant with JAUNDICE may be having physiological jaundice. However jaundice in such infants can increase and need to be followed up. The mother is given advice on home care for the young infant, told when to return immediately and followed up in 2 days to assess level of jaundice.

LOW BODY TEMPERATURE

In the absence of signs of possible serious bacterial infection and severe jaundice, if the axillary temperature of a young infant is between 35.5-36.4^{o}C (both values inclusive), the baby may not be sick enough to be referred. Low body temperature in such a case may be due to environmental factors and may not be a manifestation of infection. Such an infant should be warmed using Skin-to-Skin Contact (Kangaroo Mother Care) for 1 hour. The young infant should be reassessed after 1 hour for signs of possible serious bacterial infection and the temperature should be recorded again.

2.0 ASSESS AND CLASSIFY DIARRHOEA

Diarrhoea occurs when stools contain more water than normal. Diarrhoea is also called **loose** or **watery** stools. It is more common in babies under 6 months who are drinking cow's milk or infant feeding formulas. Frequent passing of normal stools is not diarrhoea. In many regions diarrhoea is defined as three or more loose or watery stools in a 24-hour period.

Mothers may say that the infant's stools are **loose or watery**. Mothers may use a local word for diarrhoea. Babies who are exclusively breastfed often have stools that are soft; this is not diarrhoea. The mother of a breastfed baby can recognize diarrhoea because the consistency or frequency of the stools is different than normal.

What are the Types of Diarrhoea?
Most diarrhoeas which cause dehydration are **loose or watery.** If an episode of diarrhoea lasts less than 14 days, it is **acute** diarrhoea. Acute watery diarrhoea causes dehydration and contributes to malnutrition. The death of an infant with acute diarrhoea is usually due to dehydration.

If the diarrhoea lasts 14 days or more, it is **persistent** diarrhoea. Up to 20% of episodes of diarrhoea become persistent. Persistent diarrhoea often causes nutritional problems and contributes to deaths in children.

Diarrhoea with blood in the stool, with or without mucus, is called **dysentery**.

2.1 ASSESS DIARRHOEA

If the mother says that the young infant has diarrhoea, assess and classify for diarrhoea. The normally frequent or loose stools of a breastfed baby are not diarrhoea. The mother of a breastfed baby can recognize diarrhoea because the consistency or frequency of the stools is different than normal

A young infant with diarrhoea is assessed for:
- how long the young infant has had diarrhoea
- blood in the stool to determine if the young infant has dysentery, and for
- signs of dehydration.

Ask about diarrhoea in ALL young infants. Look at the following steps for assessing a young infant with diarrhoea:

Does the young infant have diarrhoea?

IF YES, ASK:	*LOOK AND FEEL:*
• For how long? • Is there blood in the stool?	• Look at the young infant's general condition. Is the infant: Lethargic or unconscious? Restless and irritable? • Look for sunken eyes. • Pinch the skin of the abdomen. Does it go back: Very slowly (longer than 2 seconds)? Slowly?

ASK: Does the young infant **have diarrhoea?**
Use words for diarrhoea the mother understands.

If the mother answers NO, assess the young infant for feeding problem or malnutrition. You do not need to assess the young infant further for signs related to diarrhoea.

If the mother answers YES, or if the mother said earlier that diarrhoea was the reason for coming to the clinic, record her answer. Then assess the young infant for signs of dehydration, severe persistent diarrhoea and dysentery.

ASK: For how long?
Diarrhoea which lasts ***14 days or more*** is severe persistent diarrhoea.

Give the mother time to answer the question. She may need time to recall the exact number of days.

ASK: Is there blood in the stool?
Ask the mother if she has seen blood in the stools each time the young infant passed a loose stool. A sick young infant may pass blood in stools without diarrhea.

* * *

Next, check for signs of ***dehydration.*** When a young infant becomes dehydrated, he is at first restless and irritable. If dehydration continues, the young infant becomes lethargic or unconscious. As the young infant's body loses fluids, the eyes may look sunken. When pinched, the skin will go back slowly or very slowly.

* * *

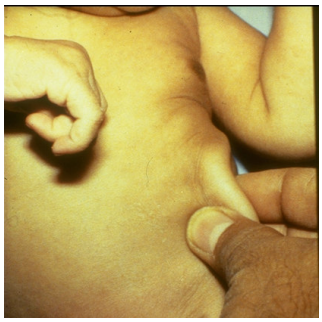
LOOK and **FEEL** for the following signs:

LOOK at the young infant's general condition. Is the young infant lethargic or unconscious? Restless and irritable?
When you checked for signs of possible bacterial infection / severe jaundice, you checked to see if the young infant was ***lethargic or unconscious***.

A young infant has the sign ***restless and irritable*** if the young infant is restless and irritable all the time or every time he is touched and handled. If an infant is calm when breastfeeding but again restless and irritable when he stops breastfeeding, he has the sign "restless and irritable".

LOOK for sunken eyes.
The eyes of a young infant or child who is dehydrated may look sunken. Decide if you think the eyes are sunken. (If in doubt?)Then ask the mother if she thinks her infant's eyes look unusual. Her opinion helps you confirm that the young infant's eyes are sunken.

PINCH the skin of the abdomen. Does it go back: Very slowly (longer than 2 seconds)? Slowly?
Ask the mother to place the young infant or child on the examining table so that the young infant or child is flat on his back with his arms at his sides (not over his head) and his legs straight. Or, ask the mother to hold the young infant or child so he is lying flat in her lap.



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

- very slowly (longer than 2 seconds)
- slowly
- immediately

If the skin stays up for even a brief time after you release it, decide that the skin pinch goes back slowly.

2.2 CLASSIFY DIARRHOEA

Compare the infant's signs to the signs listed and choose one classification for dehydration. Choose an additional classification if the infant has diarrhoea for 14 days or more, or blood in the stool.

Sick young infants less than 2 months age with severe dysentery have a red classification because a young infant with dysentery has a high risk of death and should be referred to a hospital. Also, blood in the stool in a young infant may be a sign of a surgical problem.

Two of the following signs: • Lethargic or unconscious • Sunken eyes • Skin goes back very slowly	**SEVERE DEHYDRATION**	➢ ***If infant has low weight or another severe classification:*** ➢ ***Give first dose of intramuscular ampicillin and gentamicin*** - ***Refer URGENTLY to hospital with mother giving frequent sips of ORS on the way*** - ***Advise mother to continue breast feeding*** - ***Advise mother to keep the young infant warm on the way to the hospital*** ***OR*** ➢ If infant does not have low weight or any other severe classification: - Give fluid for severe dehydration (Plan C) and then refer to hospital after rehydration
Two of the following signs: • Restless, irritable • Sunken eyes • Skin goes back slowly	**SOME DEHYDRATION**	➢ ***If infant has low weight or another severe classification:*** - ***Give first dose of intramuscular ampicillin and gentamicin*** - ***Refer URGENTLY to hospital with mother giving frequent sips of ORS on the way*** - ***Advise mother to continue breast feeding*** - ***Advise mother to keep the young infant warm on the way to the hospital*** ➢ If infant does not have low weight or another severe classification**:** - Give fluids for some dehydration (Plan B) - Advise mother when to return immediately - Follow up in 2 days
• Not enough signs to classify as some or severe dehydration	**NO DEHYDRATION**	➢ Give fluids to treat diarrhea at home (Plan A) ➢ Advise mother when to return immediately ➢ Follow up in 5 days if not improving

• Diarrhea lasting 14 days or more	**SEVERE PERSISTENT DIARRHEA**	➢**Give first dose of intramuscular ampicillin and gentamicin if the young infant has low weight, dehydration or another severe classification.** ➢**Treat to prevent low blood sugar.** ➢**Advise how to keep infant warm on the way to the hospital.** ➢Refer to hospital. #

• Blood in the stools	**SEVERE DYSENTERY**	➢**Give first dose of intramuscular ampicillin and gentamicin if the young infant has low weight, dehydration or another severe classification.** ➢**Treat to prevent low blood sugar.** ➢**Advise how to keep infant warm on the way to the hospital**. ➢Refer to hospital. #

EXERCISE B

In this exercise you will practice recording assessment results on a Young Infant Recording Form. You will classify the infants for possible bacterial infection/ jaundice and diarrhoea.

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

To do each case:

1. Label a recording form with the young infant's name.
2. Read the case information. Write the infant's age, weight, temperature and problem. Check "Initial Visit". (All the infants in this exercise are coming for an initial visit.)
3. Record the assessment results on the form.
4. Classify the infant for possible bacterial infection / severe jaundice and diarrhoea.
5. Then go to the next case.

Case 1: Harish

Harish is a 3-week-old infant. His weight is 3.6 kg. His axillary temperature is 36.5°C. He is brought to the clinic because he is having difficulty breathing. The doctor first checks the young infant for signs of possible bacterial infection/jaundice. His mother says that Harish has not had convulsions. The doctor counts 74 breaths per minute. He repeats the count. The second count is 70 breaths per minute. He finds that Harish has mild chest indrawing and nasal flaring. He has no grunting. The fontanelle does not bulge. There is no pus in his ears, the umbilicus is normal, and there are no skin pustules. Harish is calm and awake, and his movements are normal. He has no jaundice. He does not have diarrhoea

Case 2: Baby of Shashi

Baby of Shashi is 4 days old. Her weight is 2.7 kg. Her axillary temperature is 37° C. Her mother brought her to the clinic because she has become yellow and has a rash. The doctor assesses for signs of possible bacterial infection/jaundice. The mother says that there were no convulsions. The baby's breathing rate is 55 per

minute. She has no chest indrawing, no nasal flaring, and no grunting. Her fontanelle is not bulging. There is no pus in her ears and her umbilicus is normal. The doctor examines her entire body and finds a red rash with 3-4 skin pustules on her buttocks. She is awake, not lethargic, and her movements are normal. She is jaundiced and her palms and soles are yellow. She does not have diarrhoea.

Case 3: Ankit

Ankit is a tiny baby who was born exactly 2 weeks ago. His weight is 2.5 kg. His axillary temperature is 35.7° C. His mother says that he was born prematurely, at home, and was born much smaller than her other babies. She is worried because his umbilicus is infected. She says he has had no convulsions. The doctor counts his breathing and finds he is breathing 55 breaths per minute. He has no chest indrawing, no nasal flaring and no grunting. His fontanelle is not bulging. There is no pus draining from his ears. His umbilicus has some pus on the tip and a little redness at the tip only. The doctor looks over his entire body and finds no skin pustules. He is awake and content. He is moving a normal amount. He has no jaundice. He does not have diarrhoea.

Case 4: Neera

Neera is 7 weeks old. Her weight is 3.0 kg. Her axillary temperature is 36.8°C. Her mother has brought her because she has diarrhoea. The doctor first assesses her for signs of possible bacterial infection / jaundice. The mother says that Neera has not had convulsions. The doctor counts his breathing and finds she is breathing 58 breaths per minute. She was sleeping in her mother's arms but awoke when her mother unwrapped her. She has slight chest indrawing, no nasal flaring and no grunting. Her fontanelle is not bulging. There is no pus draining from her ears. Her umbilicus is not red or draining pus. She has a rash in the area of her diaper but there are no pustules. She is crying and moving her arms and legs. Her palms and soles are not yellow.

When the doctor asks the mother about Neera's diarrhoea, the mother replies that it began 3 days ago and there is blood in the stool. Neera 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 you have completed this exercise, please discuss your answers with a facilitator.

Note: Keep the recording forms for these 4 young infants. You will continue to assess, classify and identify treatment for them later in the course.

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EXERCISE C

You will watch a video of young infants. This will demonstrate how to assess a young infant for diarrhoea.

Then you will see a video case study of a young infant. You will practice assessing and classifying the young infant for possible bacterial infection/ jaundice and diarrhoea. Write your assessment results on the recording form provided to you. Then record the infant's classifications.

3.0 THEN CHECK FOR FEEDING PROBLEM AND MALNUTRITION

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.

A young infant who is severely underweight has SEVERE MALNUTRITION. Infants born with low birth weight can have very low weight for age, particularly when they have further weight loss due to illness or feeding problems.

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

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

The assessment has two parts. In the first part, you ask the mother questions. You determine if she is having difficulty feeding the infant, what the young infant is fed and how often. Also determine weight for age. Young infants with SEVERE MALNUTRITION are at a high risk of death in the next few weeks. Refer such infants to a hospital.

In the second part, if the infant has any problems with breastfeeding or is low weight for age, you assess how the infant breastfeeds.

3.1 ASK ABOUT FEEDING AND DETERMINE WEIGHT FOR AGE

The first part of the assessment is above the dotted line.

THEN CHECK FOR FEEDING PROBLEM & MALNUTRITION • Is there any difficulty feeding? Yes __ No ___ ▪ Determine weight for age. Severely underweight _____ Moderately underweight ___ Not Low ___ • Is the infant breastfed? Yes _____ No ___ If Yes, how many times in 24 hours? ____ times • Does the infant usually receive any other foods or drinks? Yes ___ No ___ If Yes, how often? What do you use to feed the infant?	

ASK: Is there any difficulty feeding?

Any difficulty mentioned by the mother is important. This mother may need counselling or specific help with a difficulty. Breastfeeding difficulties mentioned by a mother may include: her infant feeds too frequently, or not frequently enough; she does

not have enough milk; her nipples are sore; she has flat or inverted nipples; or the infant does not want to take the breast. If a mother says that the infant is **not able to feed**, watch her try to feed the infant to see what she means by this. An infant who is **not able to feed** may have a serious infection or other life-threatening problem and should be referred urgently to hospital.

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.

ASK: What do you use to feed the infant?

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

Determine weight for age.

Weight for age compares the young infant's weight with the weight of other infants who are the same age. You will identify young infants whose weight for age is below the line of -3SD which indicates that the young infant is "*severely underweight"* or between the line for -2SD and -3SD which indicates that the infant is "*moderately underweight"* .If the infant's weight is above the line -2SD , he is considered *not low weight for age*.

Infants who are severely underweight for age need referral care and should be referred to a hospital. Infants who are moderately underweight for age need special attention to how they are fed.

Look now at the WHO weight for age chart on the next page which is labelled in months. The age of a young infant is usually stated in weeks; therefore an inset weight for age chart for young infants upto 2 months has also been given in weeks. Remember to use separate charts for boys and girls. Some young infants who are moderately underweight for age were born with low birth weight. Some did not gain weight well after birth.

To determine weight for age:

1. Calculate the infant's age in weeks.

2. Weigh the young infant if he has not already been weighed today. Use a scale which you know gives accurate weights. The infant should wear light clothing when he is weighed. Ask the mother to help remove any sweater or shoes.

3. Use the weight for age chart to determine weight for age. Remember to use separate charts for boys and girls.

   - Look at the left-hand axis to locate the line that shows the young infant's weight.
   - Look at the bottom axis of the chart to locate the line that shows the young infant's age in weeks.
   - Find the point on the chart where the line for the young infant's weight meets the line for the infant's age.

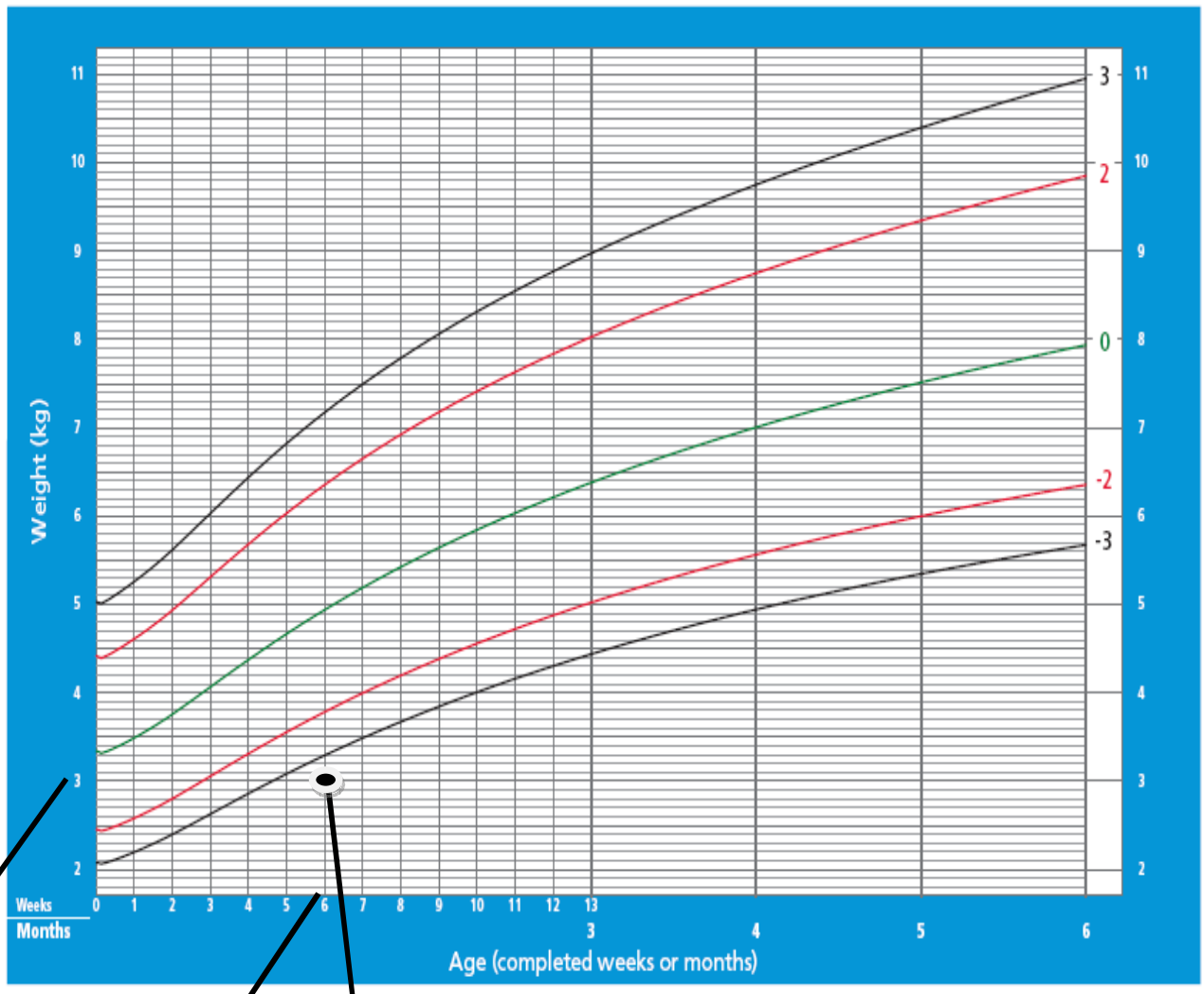
4. Decide if the point is below the -3 SD for age line, between the -3SD and -2 SD for age lines or above the -2SD for age line.

   - If the point is below the -3SD for age line, the young infant has severe malnutrition.

   - If the point is above or on the -3SD for age line and below the -2SD for age line, the young infant is low weight for age.

- If the point is above or on the -2SD for age line, the young infant is not low weight for age.

EXAMPLE: A young infant is 6 weeks old male and weighs 3 kg. Here is how the doctor checked the infant's weight for age.



This line shows the infant weight is 3 kg.

This line shows the infant is 6 weeks of age

This is the point where the line for age and weight meet. Because the point is below the -3SD line, the child has severe malnutrition.

3.2 ASSESS BREASTFEEDING

First decide whether to assess the infant's breastfeeding:

* If the infant is exclusively breastfed without difficulty and is not low weight for age, there is no need to assess breastfeeding.

* If the infant is not breastfed at all, do not assess breastfeeding.

* If the infant has a serious problem requiring urgent referral to a hospital, do not assess breastfeeding.

In these situations, classify the feeding based on the information that you have already. If the mother's answers or the infant's weight indicates a difficulty, observe a breastfeed as described below. Low weight for age is often due to low birthweight. Low birthweight infants are particularly likely to have a problem with breastfeeding.

IF AN INFANT: **Has any difficulty feeding, or**
Is breast feeding less than 8 times in 24 hours, or
Is taking any other foods or drinks, or
Is moderately underweight,
AND
Has no indications for refer urgently to hospital

ASSESS BREASTFEEDING:

- Has the infant breastfed in the previous hour?

If the infant has not fed in the previous hour, ask the mother to put her infant to the breast. Observe her 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?

no attachment at all *not well attached* *good attachment*

TO CHECK ATTACHMENT, LOOK FOR:

- *Chin touching breast*
- *Mouth wide open*
- *Lower lip turned outward*
- *More areola visible above than below the mouth*

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

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

not suckling at all *not suckling effectively* *suckling effectively*

Clear a blocked nose if it interferes with breastfeeding

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

- Dose the mother have pain while breastfeeding?

If yes, look and feel for:
- Flat or inverted nipples, or sore nipples
- Engorged breasts or breast abscess

Assessing breastfeeding requires careful observation.

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

If so, ask the mother to wait and tell you when the infant is willing to feed again. In the meantime, complete the assessment by assessing the infant's immunization status. You may also decide to begin any treatment that the infant needs, such as giving an antibiotic for LOCAL BACTERIAL INFECTION or ORS solution for SOME DEHYDRATION.

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

LOOK: Is the infant able to attach?

The four signs of good attachment are:

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

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

If attachment is not good, you may see:

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

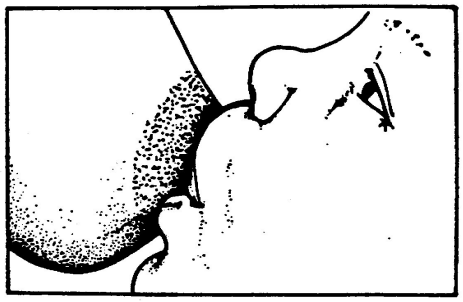
If you see any of these signs of poor attachment, the infant is ***not well attached***.

If a very sick infant cannot take the nipple into his mouth and keep it there to suck, he has ***no attachment at all.*** He is not able to breastfeed at all.

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

A baby well attached to his mother's breast

A baby poorly attached to his mother's breast



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

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

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

An infant who is ***not suckling at all*** is not able to suck breastmilk into his mouth and swallow. Therefore he is not able to breastfeed at all.

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

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

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

ASK: Does the mother have pain while breastfeeding?

Pain while breastfeeding may indicate sore nipples, breast engorgement or breast abscess. Look at both the breasts and nipples carefully.

LOOK: Flat or inverted or sore nipples? Engorged breasts or breast abscess?

Flat or inverted nipples make it difficult for the baby to breastfeed. The baby may bite on the nipple and the nipples may get cracked and sore. Engorged breasts are swollen, hard and tender. Presence of a breast abscess is indicated additionally by localized redness and warmth.

EXERCISE D

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

Part 1 -- Video

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

Part 2 -- Photographs

1. Study photographs numbered 13 through 17 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.

Photo	Signs of Good Attachment				Assessment	Comments
	Chin Touching Breast	Mouth Wide Open	Lower Lip Turned Outward	More Areola Showing Above		
13	yes (almost)	yes	Yes	yes	Good attachment	
14	no	no	yes	no (equal above and below)	Not well attached	
15	yes	no	No	yes	Not well attached	Lower lip turned in
16	no	no	No	no	Not well attached	Cheeks pulled in
17	yes	yes	yes	cannot see	Good attachment	

2. Now study photographs 18 through 23. In each photograph, look for each of the **signs** of good attachment and mark on the chart whether each is present. Also write your overall assessment of attachment.

Photo	Signs of Good Attachment				Assessment	Comments
	Chin Touching Breast	Mouth Wide Open	Lower Lip Turned Outward	More Areola Showing Above		
18						
19						
20						
21						

3. Study photographs 22 and 23. 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.

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3.3 CLASSIFY FEEDING

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

• Not able to feed or • No attachment at all or • Not suckling at all or • Severely underweight (< -3SD)	**NOT ABLE TO FEED – POSSIBLE SERIOUS BACTERIAL INFECTION Or SEVERE MALNUTRITION**	➢ ***Give first dose of intramuscular ampicillin and gentamicin*** ➢ ***Treat to prevent low blood sugar*** ➢ ***Warm the young infant by skin to skin contact if temperature less than 36.5oC (or feels cold to touch) while arranging referral*** ➢ ***Advise mother how to keep the young infant warm on the way to the hospital*** ➢ ***Refer URGENTLY to hospital#***
• Not well attached to breast or • Not suckling effectively or • Less than 8 breastfeeds in 24 hours or • Receives other foods or drinks or • Moderately underweight (<-2SD to -3SD) or • Thrush (ulcers or white patches in mouth) or • Breast or nipple problems	**FEEDING PROBLEM OR LOW WEIGHT**	➢ If not well attached or not suckling effectively, teach correct positioning and attachment ➢ If breastfeeding less than 8 times in 24 hours, advise to increase frequency of feeding. ➢ If receiving other foods or drinks, counsel mother about breastfeeding more, reducing other foods or drinks, and using a cup and spoon. • If not breastfeeding at all advise mother about giving locally appropriate animal milk and teach the mother to feed with a cup and spoon. ➢ If thrush, teach the mother to treat thrush at home. ➢ If breast or nipple problem, teach the mother to treat breast or nipple problems. ➢ If low weight for age, teach the mother how to keep the young infant with low weight warm at home ➢ Advise the mother to give home care for the young infant ➢ Advise mother when to return immediately ➢ Follow up any feeding problem or thrush in 2 days ➢ Follow up low weight for age in 14 days
• Not low weight for age (≥-2SD) and no other signs of inadequate feeding	**NO FEEDING PROBLEM**	➢ Advise the mother to give home care for the young infant ➢ Advise mother when to return immediately ➢ Praise the mother for feeding the infant well

NOT ABLE TO FEED - POSSIBLE SERIOUS BACTERIAL INFECTION OR SEVERE MALNUTRITION

The young infant is not able to feed or is who are severely underweight for age has a life-threatening problem. This could be due to a bacterial infection or another severe illness.[1] The infant requires immediate attention.

Treatment is the same as for the classification POSSIBLE SERIOUS BACTERIAL INFECTION at the top of the chart. Refer the young infant urgently to hospital. Before departure give a first dose of intramuscular antibiotics. Also treat the infant to prevent low blood sugar by giving breastmilk, other milk or sugar water by nasogastric tube. Warm the young infant using skin-to-skin contact if temperature is less than 36.5^{o}C or the young infant feels cold to touch while referral is being arranged. Advise mother how to keep the young infant warm on the way to the hospital.

Sick young infants brought to the health facility detected to have very low weight for age are at high risk of death. They need urgent treatment and referral to hospital. Provide the same pre-referral treatment as for POSSIBLE SERIOUS BACTERIAL INFECTION before referring the young infant urgently to hospital because in this group of infants it is very difficult to distinguish if they have infection or not clinically.

FEEDING PROBLEM OR LOW WEIGHT

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

Advise the mother of any young infant in this classification to breastfeed as often and for as long as the infant wants, day and night. Short breastfeeds are an important reason why an infant may not get enough breastmilk. The infant should breastfeed until he has finished. Teach each mother about any specific help her infant needs, such as better positioning and attachment for breastfeeding, or treating thrush. Teach the mother how to express breastmilk and feed with a cup and spoon if the young infant is not able to suckle effectively even after correcting positioning and attachment. Advise the mother how to keep the young infant with low weight warm at home. Also advise the mother how to give home care for the young infant.

[1] An infant with neonatal tetanus who is not able to feed and has stiffness would be referred based on this classification.

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

NO FEEDING PROBLEM

A young infant in this classification is exclusively and frequently breastfed.
"Not low" weight for age means that the infant's weight for age is not below the line for "Low Weight for Age" i.e. -2SD. 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.

4.0 THEN CHECK THE YOUNG INFANT'S IMMUNIZATION STATUS

Check the immunization status for ALL young infants. Have they received all the immunizations recommended for their age? Do they need any immunizations today?

Use your National Recommended Immunization Schedule when you check the young infant's immunization status. Look at the *ASSESS & CLASSIFY THE SICK YOUNG INFANT* chart and locate the recommended immunization schedule. Refer to it as you read how to check a young infant's immunization status.

THEN CHECK THE YOUNG INFANT'S IMMUNIZATION STATUS

IMMUNIZATION SCHEDULE *:	AGE	VACCINE
	Birth	BCG OPV 0
	6 weeks	DPT 1 OPV 1 HEP-B 1

* Hepatitis B to be given wherever included in the immunization schedule

Give the recommended vaccine when the infant is the appropriate age for each dose. If the infant does not come for an immunization at the recommended age, give the necessary immunizations any time after the infant reaches that age. Give the remaining doses at least 4 weeks apart. You do not need to repeat the whole schedule. Remember that you should not give OPV 0 to an infant who is more than 14 days old. Therefore, if an infant has not received OPV 0 by the time he is 15 days old, you should wait to give OPV until he is 6 weeks old. Then give OPV 1 together with DPT 1. Also give BCG if not already given.

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

Advise the mother to be sure the other children in the family are immunized. Give the mother tetanus toxoid, if required.

To decide if the young infant needs an immunization today:

LOOK at the infant's age on the clinical record.
If you do not already know the infant's age, ask about the infant's age.

ASK the mother if the infant has an immunization card.
If the mother answers YES, ask her if she has brought the card to the clinic today.

* If she has brought the card with her, ask to see the card.

* Compare the infant's immunization record with the recommended immunization schedule. Decide whether the infant has had all the immunizations recommended for the infant's age.

* On the Recording Form, check all immunizations the infant has already received. Write the date of the immunization the infant received most recently. Circle any immunizations the young infant needs today.

* If the young infant is not being referred, explain to the mother that the child needs to receive an immunization (or immunizations) today.

If the mother says that she does NOT have an immunization card with her:
* Ask the mother to tell you what immunizations the infant has received.
* Use your judgement to decide if the mother has given a reliable report. If you have any doubt, immunize the infant.
* Give an immunization card to the mother and ask her to please bring it with her each time she brings the infant to the clinic.

EXERCISE E

Part 1: Review the information about contraindications to immunizations. Then decide if a contraindication is present for each of the following infants:

If the infant:	**Immunize this infant today if due for immunization**	**Do not immunize today**
will be treated at home with antibiotics		
has a local skin infection		
has a congenital heart problem		
is being referred for severe classification		
is exclusively breastfed		
older brother had convulsion last year		
was jaundiced at birth		
is LOW WEIGHT for age		
has DIARRHOEA: NO DEHYDRATION		

****

5.0 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.

***

Below is the bottom half of a Young Infant Recording Form. This is where you record the assessment and classification of feeding and weight. This may include an assessment of breastfeeding. At the bottom are sections for recording immunizations and any other problems. Study the example below. It has been completed to show the rest of the assessment of the infant Swati, 15 days old and weighing 2.4 kg.

THEN CHECK FOR FEEDING PROBLEM & MALNUTRITION

- Is there any difficulty feeding? Yes ___ No ✓
- Is the infant breastfed? Yes ✓ No ___
  If Yes, how many times in 24 hours? 5 times
- Does the infant usually receive any other foods or drinks? Yes ✓ No ___
  If Yes, how often? *Cow's milk once, sometimes water also*
- What do you use to feed the infant? *Feeding bottle*
- Determine weight for age. Severely underweight _____
  Moderately underweight ✓ Not Low ____

Feeding problem or low weight

If the infant has any difficulty feeding, is feeding ~~less than 8 times~~ in 24 hours, is taking any other food or drinks, or is moderately underweight 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.

- Is the infant able to attach? To check attachment, look for:
  - Chin touching breast — Yes ✓ No ___
  - Mouth wide open — Yes ✓ No ___
  - Lower lip turned outward — Yes ✓ No ___
  - More areola above than below the mouth — Yes ✓ No ___

  no attachment at all *not well attached* *good attachment*
- Is the infant suckling effectively (that is, slow deep sucks, sometimes pausing)?

  not suckling at all *not suckling effectively* *suckling effectively*
- Look for ulcers or white patches in the mouth (thrush).

- Does mother have pain while breastfeeding?

If yes, look and feel for:
- Flat or inverted nipples, or sore nipples
- Engorged breasts or breast abscess

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

BCG DPT1 OPV 0 OPV 1 HEP-B 1

Return for next immunization on:

in 4 weeks
(Date)

ASSESS OTHER PROBLEMS:

EXERCISE F

This exercise will continue the 4 cases begun in Exercise B. Get out the fourYoung Infant Recording Forms that you used in Exercise B. Refer to the *ASSESS AND CLASSIFY THE SICK YOUNG INFANT* chart and the Weight for Age chart as needed.

For each case:

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

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

3. Classify feeding.

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

Case 1: Harish

Harish's mother says that she has no difficulty feeding him. He breastfeeds about 8 times in 24 hours. She gives him no other foods or drinks. The doctor uses the Weight for Age chart and determines that Harish's weight (3.6 kg) is not low for his age (3 weeks).

The doctor decides not to assess breastfeeding. When asked about immunizations, Harish's mother says that he was born at home and had no immunizations. There are no other problems.

Case 2: Baby of Shashi

When asked if she has any difficulty feeding, the mother says no. She says that the baby breastfeeds 9 or 10 times in 24 hours and drinks no other fluids. Then the doctor refers to the baby's weight and age recorded at the top of the recording form. He uses the Weight for Age chart to check the baby's weight for age. The doctor decides that there is no need to assess breastfeeding.

The baby was delivered at home and has not been given any immunization.

When the doctor asks the mother if the baby has any other problems, she says no.

Case 3: Ankit

Ankit's mother says that she has had no problem breastfeeding him and that he breastfeeds 6 or 7 times in 24 hours. She has not given him any other milk or drinks. The doctor checks his weight for age.

Since Ankit is moderately underweight for age, the doctor decides to assess breastfeeding. His mother says that he is probably hungry now, and puts him to the breast. The doctor observes that Ankit's chin touches the breast, his mouth is wide open and his lower lip is turned outward. More areola is visible above than below the mouth. He is suckling with slow deep sucks, sometimes pausing. His mother continues feeding him until he has finished. The doctor sees no ulcers or white patches in his mouth.

Ankit has had no immunizations.

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