

INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS

**ASSESS AND CLASSIFY  
THE SICK CHILD  
AGE 2 MONTHS UP TO 5 YEARS**

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## **ASSESS AND CLASSIFY THE SICK CHILD AGE 2 MONTHS UP TO 5 YEARS**

### **INTRODUCTION**

A mother brings her sick child to the clinic for a particular problem or symptom. If you only assess the child for that particular problem or symptom, you might overlook other signs of disease. The child might have pneumonia, diarrhoea, malaria, measles, or malnutrition. These diseases can cause death or disability in young children if they are not treated.

The chart *ASSESS AND CLASSIFY THE SICK CHILD AGE 2 MONTHS UP TO 5 YEARS* describes how to assess and classify sick children so that signs of disease are not overlooked. According to the chart, you should ask the mother about the child's problem and check the child for general danger signs. Then ask about the four main symptoms: cough or difficult breathing, diarrhoea, fever and ear problem. A child who has one or more of the main symptoms could have a serious illness. When a main symptom is present, ask additional questions to help classify the illness. Check the child for malnutrition and anaemia. Also check the child's immunization status and assess other problems the mother has mentioned.

{Module 01 – page 001.jpg}

## LEARNING OBJECTIVES

This module will describe and allow you to practice the following skills:

- \* Asking the mother about the child's problem.
- \* Checking for general danger signs.
- \* Asking the mother about the four main symptoms:
  - cough or difficult breathing
  - diarrhoea
  - fever
  - ear problem.
- \* When a main symptom is present:
  - assessing the child further for signs related to the main symptom
  - classifying the illness according to the signs which are present or absent.
- \* Checking for signs of malnutrition and anaemia and classifying the child's nutritional status.
- \* Checking the child's immunization status and deciding if the child needs any immunizations today.
- \* Assessing any other problems.

Your facilitator will tell you more about the *ASSESS & CLASSIFY* chart.

## 1.0 ASK THE MOTHER WHAT THE CHILD'S PROBLEMS ARE

A mother (or other family member such as the father, grandmother, sister or brother) usually brings a child to the clinic because the child is sick. But mothers also bring children for well-child visits, immunization sessions and for treatment of injuries. The steps on the *ASSESS & CLASSIFY* chart describe what you should do when a mother brings her child to the clinic because he is sick. The chart should not be used for a well child brought for immunization or for a child with an injury or burn.

When patients arrive at most clinics, clinic staff identify the reason for the child's visit. Clinic staff obtain the child'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 child see a health worker.

When you see the mother and her sick child:

- \* **Greet the mother appropriately** and ask her to sit with her child.

You need to know the child's age so you can choose the right case management chart. Look at the child's record to find the child's age.

- If the child is age 2 months up to 5 years, assess and classify the child according to the steps on the *ASSESS & CLASSIFY* chart.
- If the child is 1 week up to 2 months, assess and classify the young infant according to the steps on the *YOUNG INFANT* chart. (You will learn more about managing sick young infants later in the course.)

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

- \* **Ask the mother what the child's problems are.**

Record what the mother tells you about the child'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 child will receive good care. When you treat the child's illness later in the visit, you will need to teach and advise the mother about caring for her sick child 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 child 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 child's first visit for this episode of an illness or problem, then this is an ***initial*** visit.

If the child 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 health worker finds out if the treatment he gave during the initial visit has helped the child. If the child is not improving or is getting worse after a few days, the health worker refers the child to a hospital or changes the child'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 health worker writes a follow-up note on the multi-visit card or chart. Or, when the patient registers, clinic staff ask 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 module describe children who have come for an initial visit.



## 2.0 CHECK FOR GENERAL DANGER SIGNS

Check ALL sick children for general danger signs.

A general danger sign is present if:

- the child is not able to drink or breastfeed
- the child vomits everything
- the child has had convulsions
- the child is lethargic or unconscious.

A child with a general danger sign has a serious problem. Most children with a general danger sign need URGENT referral to hospital. They may need lifesaving treatment with injectable antibiotics, oxygen or other treatments which may not be available in your clinic. Complete the rest of the assessment immediately. How to provide urgent treatment is described in the module *Identify Treatment*.

Here is the first box in the "Assess" column. It tells you how to check for general danger signs.

{Module 01 – page 005.jpg}

When you check for general danger signs:

### **ASK: Is the child able to drink or breastfeed?**

A child has the sign "not able to drink or breastfeed" if the child is not able to suck or swallow when offered a drink or breastmilk.

When you ask the mother if the child is able to drink, make sure that she understands the question. If she says that the child is not able to drink or breastfeed, ask her to describe what happens when she offers the child something to drink. For example, is the child able to take fluid into his mouth and swallow it? If you are not sure about the mother's answer, ask her to offer the

child a drink of clean water or breastmilk. Look to see if the child is swallowing the water or breastmilk.

A child who is breastfed may have difficulty sucking when his nose is blocked. If the child's nose is blocked, clear it. If the child can breastfeed after his nose is cleared, the child does not have the danger sign, "not able to drink or breastfeed."

**ASK: Does the child vomit everything?**

A child who is not able to hold anything down at all has the sign "vomits everything." What goes down comes back up. A child who vomits everything will not be able to hold down food, fluids or oral drugs. A child who vomits several times but can hold down some fluids does not have this general danger sign.

When you ask the question, use words the mother understands. Give her time to answer. If the mother is not sure if the child is vomiting everything, help her to make her answer clear. For example, ask the mother how often the child vomits. Also ask if each time the child swallows food or fluids, does the child vomit? If you are not sure of the mother's answers, ask her to offer the child a drink. See if the child vomits.

**ASK: Has the child had convulsions?**

During a convulsion, the child's arms and legs stiffen because the muscles are contracting. The child may lose consciousness or not be able to respond to spoken directions.

Ask the mother if the child has had convulsions during this current illness. Use words the mother understands. For example, the mother may know convulsions as "fits" or "spasms."

**LOOK: See if the child is lethargic or unconscious.**

A lethargic child is not awake and alert when he should be. He is drowsy and does not show interest in what is happening around him. Often the lethargic child does not look at his mother or watch your face when you talk. The child may stare blankly and appear not to notice what is going on around him.

An unconscious child cannot be wakened. He does not respond when he is touched, shaken or spoken to.

Ask the mother if the child seems unusually sleepy or if she cannot wake the child. Look to see if the child wakens when the mother talks or shakes the child or when you clap your hands.

**Note:** If the child is sleeping and has cough or difficult breathing, count the number of breaths first before you try to wake the child.

If the child has a general danger sign, complete the rest of the assessment immediately. This child has a severe problem. There must be no delay in his treatment.

\* \* \*

You will learn to record information about the sick child on a special form. This form is called a **Recording Form**. The front of the Recording Form is similar to the *ASSESS & CLASSIFY* chart. It lists the questions to ask the mother and the signs for which you should look, listen and feel.

In most of the exercises in this module, you will only use part of the Recording Form. As you learn each step in the chart, you will use more of it.

Your facilitator will show you a Recording Form and tell you how to use it.



## EXERCISE A

**Note:** This picture means you will do a written exercise. You will read case studies describing signs and symptoms in sick children. You will use the Recording Form to record the child's signs and how you classified the illness. When you finish the exercise, a facilitator will discuss your work with you. The facilitator can also answer your questions about information in the module or on the chart.

\* \* \*

Read the following case studies and answer the questions about each one.

### Case 1: Salina

Salina is 15 months old. She weighs 8.5 kg. Her temperature is 38.5°C.

The health worker asked, "What are the child's problems?" The mother said, "Salina has been coughing for 4 days, and she is not eating well." This is Salina's initial visit for this problem.

The health worker checked Salina for general danger signs. He asked, "Is Salina able to drink or breastfeed?" The mother said, "No. Salina does not want to breastfeed." The health worker gave Salina some water. She was too weak to lift her head. She was not able to drink from a cup.

Next he asked the mother, "Is she vomiting?" The mother said, "No." Then he asked, "Has she had convulsions?" The mother said, "No."

The health worker looked to see if Salina was lethargic or unconscious. When the health worker and the mother were talking, Salina watched them and looked around the room. She was not lethargic or unconscious.

Now answer the questions on the next page.

Here is the top part of a Recording Form:

**{Module 02 – page 009.jpg}**

- a. Write Salina's name, age, weight and temperature in the spaces provided on the top line of the form.
- b. Write Salina's problem on the line after the question "Ask -- What are the child's problems?"
- c. Tick (✓) whether this is the initial or follow-up visit for this problem.
- d. Does Salina have a general danger sign? If yes, circle her general danger sign in the box with the question, "Check for general danger signs."

In the top row of the "Classify" column, tick (✓) either "Yes" or "No" after the words, "General danger sign present?"

## Case 2: Justin

Justin is 4 years old. He weighs 10 kg. His temperature is 38°C.

The health worker asked about the child's problems. Justin's parents said, "He is coughing and has ear pain." This is his initial visit for this problem.

The health worker asked, "Is your child able to drink or breastfeed?" The parents answered, "Yes." "Does Justin vomit everything?" he asked. The parents said, "No." The health worker asked, "Has he had convulsions?" They said, "No." The health worker looked at Justin. The child was not lethargic or unconscious.

Here is the top part of a Recording Form:

<b>{Module 02 – page 010.jpg}</b>
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- a. Write Justin's name, age, weight and temperature in the spaces provided on the top line of the form.
- b. Write Justin's problem on the line after the question, "Ask -- What are the child's problems?"
- c. Tick (✓) whether this is the initial or follow-up visit.
- d. Does Justin have a general danger sign? If yes, circle the sign on the Recording Form. Then tick (✓) "Yes" or "No" after the words, "General danger sign present?"

Tell the facilitator when you have completed this exercise.
---

### 3.0 ASSESS AND CLASSIFY COUGH OR DIFFICULT BREATHING

Respiratory infections can occur in any part of the respiratory tract such as the nose, throat, larynx, trachea, air passages or lungs.

{Module 02 – page 011.jpg}

A child with cough or difficult breathing may have pneumonia or another severe respiratory infection. Pneumonia is an infection of the lungs. Both bacteria and viruses can cause pneumonia. In developing countries, pneumonia is often due to bacteria. The most common are *Streptococcus pneumoniae* and *Hemophilus influenzae*. Children with bacterial pneumonia may die from hypoxia (too little oxygen) or sepsis (generalized infection).

There are many children who come to the clinic with less serious respiratory infections. Most children with cough or difficult breathing have only a mild infection. For example, a child who has a cold may cough because nasal discharge drips down the back of the throat. Or, the child may have a viral infection of the bronchi called bronchitis. These children are not seriously ill. They do not need treatment with antibiotics. Their families can treat them at home.

Health workers need to identify the few, very sick children with cough or difficult

breathing who need treatment with antibiotics. Fortunately, health workers can identify almost all cases of pneumonia by checking for these two clinical signs: fast breathing and chest indrawing.

When children develop pneumonia, their lungs become stiff. One of the body's responses to stiff lungs and hypoxia (too little oxygen) is fast breathing.

When the pneumonia becomes more severe, the lungs become even stiffer. Chest indrawing may develop. Chest indrawing is a sign of severe pneumonia.

### **3.1 ASSESS COUGH OR DIFFICULT BREATHING**

A child with cough or difficult breathing is assessed for:

- How long the child has had cough or difficult breathing
- Fast breathing
- Chest indrawing
- Stridor in a calm child.

Here is the box in the "Assess" column that lists the steps for assessing a child for cough or difficult breathing:

**{Module 02 – page 012.jpg}**



For ALL sick children, ask about cough or difficult breathing.

**ASK: Does the child have cough or difficult breathing?**

"Difficult breathing" is any unusual pattern of breathing. Mothers describe this in different ways. They may say that their child's breathing is "fast" or "noisy" or "interrupted."

If the mother answers NO, look to see if you think the child has cough or difficult breathing. If the child does not have cough or difficult breathing, ask about the next main symptom, diarrhoea. Do not assess the child further for signs related to cough or difficult breathing.

If the mother answers YES, ask the next question.

**ASK: For how long?**

A child who has had cough or difficult breathing for more than 30 days has a chronic cough. This may be a sign of tuberculosis, asthma, whooping cough or another problem.

**COUNT the breaths in one minute.**

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

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

To count the number of breaths in one minute:

1. Use a watch with a second hand or a digital watch.
  - a. Ask another health worker to watch the second hand and tell you when 60 seconds have passed. You look at the child's chest and count the number of breaths.
  - b. If you cannot find another health worker to help you, put the watch where you can see the second hand. Glance at the second hand as you count the breaths the child takes in one minute.

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

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

The cut-off for fast breathing depends on the child's age. Normal breathing rates are higher in children age 2 months up to 12 months than in children age 12 months up to 5 years. For this reason, the cut-off for identifying fast breathing is higher in children 2 months up to 12 months than in children age 12 months up to 5 years.

If the child is:	The child has fast breathing if you count:
2 months up to 12 months:	<b>50</b> breaths per minute or more
12 months up to 5 years:	<b>40</b> breaths per minute or more.

**Note:** The child who is exactly 12 months old has fast breathing if you count 40 breaths per minute or more.

\* \* \*

Before you look for the next two signs -- chest indrawing and stridor -- watch the child to determine when the child is breathing IN and when the child is breathing OUT.

### **LOOK for chest indrawing.**

If you did not lift the child's shirt when you counted the child's breaths, ask the mother to lift it now.

Look for chest indrawing when the child breathes IN. Look at the lower chest wall (lower ribs). The child has chest indrawing if ***the lower chest wall goes IN when the child breathes IN***. Chest indrawing occurs when the effort the child 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 child breathes IN. When chest indrawing is present, the lower chest wall goes IN when the child breathes IN.

If you are not sure that chest indrawing is present, look again. If the child's body is bent at the waist, it is hard to see the lower chest wall move. Ask the

mother to change the child's position so he is lying flat in her lap. If you still do not see the lower chest wall go IN when the child breathes IN, the child 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 child is crying or feeding, the child does not have chest indrawing.

If only the soft tissue between the ribs goes in when the child breathes in (also called intercostal indrawing or intercostal retractions), the child does not have chest indrawing. In this assessment, chest indrawing is lower chest wall indrawing.<sup>1</sup> It does not include "intercostal indrawing."

{Module 02 – page 015.jpg}

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<sup>1</sup> This is the same as "subcostal indrawing" or "subcostal retractions."

## **LOOK and LISTEN for stridor.**

Stridor is a harsh noise made when the child breathes IN. Stridor happens when there is a swelling of the larynx, trachea or epiglottis.<sup>2</sup> This swelling interferes with air entering the lungs. It can be life-threatening when the swelling causes the child's airway to be blocked. A child who has stridor when calm has a dangerous condition.

To look and listen for stridor, look to see when the child breathes IN. Then listen for stridor. Put your ear near the child's mouth because stridor can be difficult to hear.

Sometimes you will hear a wet noise if the nose is blocked. Clear the nose, and listen again. A child who is not very ill may have stridor only when he is crying or upset. Be sure to look and listen for stridor when the child is calm.

You may hear a wheezing noise when the child breathes OUT. This is not stridor.

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<sup>2</sup> These conditions are often called croup.

## 3.2 CLASSIFY COUGH OR DIFFICULT BREATHING

**CLASSIFICATION TABLES:** Signs of illness and their classifications are listed on the *ASSESS & CLASSIFY* chart in classification tables. Most classification tables have three rows. If the chart is in colour, each row is coloured either pink, yellow, or green. The colour of the rows tells you quickly if the child has a serious illness. You can also quickly choose the appropriate treatment. This is the same colour system used on the CDD and ARI case management charts.

- A classification in a *pink* 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 child needs an appropriate antibiotic, an oral antimalarial or other treatment. The treatment includes teaching the mother how to give the oral drugs or to treat local infections at home. The health worker advises her about caring for the child at home and when she should return.
- A classification in a *green* row means the child does not need specific medical treatment such as antibiotics. The health worker teaches the mother how to care for her child at home. For example, you might advise her on feeding her sick child or giving fluid for diarrhoea.

Depending on the combination of the child's signs and symptoms, the child is classified in either the pink, yellow, or green row. That is, the child is classified only once in each classification table.

\* \* \*

There are three possible classifications for a child with cough or difficult breathing. They are:

- SEVERE PNEUMONIA OR VERY SEVERE DISEASE or
- PNEUMONIA or
- NO PNEUMONIA: COUGH OR COLD

Here is the classification table for cough or difficult breathing.

**{Module 02 – page 018.jpg}**

***How to use the classification table:*** After you assess for the main symptom and related signs, classify the child's illness. For example, to classify cough or difficult breathing:

1. Look at the pink (or top) row.

Does the child have a general danger sign? Does the child have chest indrawing or stridor in a calm child?

If the child has a general danger sign or any of the other signs listed in the pink row, select the severe classification, **SEVERE PNEUMONIA OR VERY SEVERE DISEASE**.

2. If the child does not have the severe classification, look at the yellow (or second) row.

This child does not have a severe classification. Does the child have fast breathing?

If the child has fast breathing, a sign in the yellow row, and the child does not have a severe classification, select the classification in the yellow row, **PNEUMONIA**.

3. If the child does not have the severe classification or the classification in the yellow row, look at the green (or bottom) row.

This child does not have any of the signs in the pink or yellow row.

If the child does not have any of the signs in the pink or yellow row, select the classification in the green row, NO PNEUMONIA: COUGH OR COLD.

4. Whenever you use a classification table, start with the top row. In each classification table, a child receives only one classification. If the child has signs from more than one row, always select the more serious classification.

**EXAMPLE:** This child has a general danger sign and fast breathing.  
Classify the child with the more serious classification -- SEVERE  
PNEUMONIA OR VERY SEVERE DISEASE.

{Module 02 – page 020.jpg}

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



Here is a description of each classification for cough or difficult breathing.

### **SEVERE PNEUMONIA OR VERY SEVERE DISEASE**

A child with cough or difficult breathing and with any of the following signs -- any general danger sign, chest indrawing or stridor in a calm child -- is classified as having SEVERE PNEUMONIA OR VERY SEVERE DISEASE.

A child with chest indrawing usually has severe pneumonia. Or the child may have another serious acute lower respiratory infection such as bronchiolitis, pertussis, or a wheezing problem.

Chest indrawing develops when the lungs become stiff. The effort the child needs to breathe in is much greater than normal.

A child with chest indrawing has a higher risk of death from pneumonia than the child who has fast breathing and no chest indrawing. If the child is tired, and if the effort the child needs to expand the stiff lungs is too great, the child's breathing slows down. Therefore, a child with chest indrawing may not have fast breathing. Chest indrawing may be the child's only sign of severe pneumonia.

#### ***Treatment***

In developing countries, bacteria causes most cases of pneumonia. These cases need treatment with antibiotics. Viruses also cause pneumonia. But there is no reliable way to find out if the child has bacterial pneumonia or viral pneumonia. Therefore, whenever a child shows signs of pneumonia, give the child an appropriate antibiotic.

A child classified as having SEVERE PNEUMONIA OR VERY SEVERE DISEASE is seriously ill. He needs urgent referral to a hospital for treatments such as oxygen, a bronchodilator or injectable antibiotics. Before the child leaves your clinic, give the first dose of an appropriate antibiotic. The antibiotic helps prevent severe pneumonia from becoming worse. It also helps treat other serious bacterial infections such as sepsis or meningitis.

### **PNEUMONIA**

A child with cough or difficult breathing who has fast breathing and no general danger signs, no chest indrawing and no stridor when calm is classified as having PNEUMONIA.

#### ***Treatment***

Treat PNEUMONIA with an appropriate antibiotic. Show the mother how to give the antibiotic. Advise her when to return for follow-up and when to return immediately.

### **NO PNEUMONIA: COUGH OR COLD**

A child with cough or difficult breathing who has no general danger signs, no chest indrawing, no stridor when calm and no fast breathing is classified as having NO PNEUMONIA: COUGH OR COLD.

***Treatment***

A child with NO PNEUMONIA: COUGH OR COLD does not need an antibiotic. The antibiotic will not relieve the child's symptoms. It will not prevent the cold from developing into pneumonia. But the mother brought her child to the clinic because she is concerned about her child's illness. Give the mother advice about good home care. Teach her to soothe the throat and relieve the cough with a safe remedy such as warm tea with sugar. Advise the mother to watch for fast or difficult breathing and to return if either one develops.

A child with a cold normally improves in one to two weeks. However, a child who has a chronic cough (a cough lasting more than 30 days) may have tuberculosis, asthma, whooping cough or another problem. Refer the child with a chronic cough to hospital for further assessment.

**EXAMPLE:** Read this case study. Also study how the health worker classified this child's illness.

\* \* \*

Aziz is 18 months old. He weighs 11.5 kg. His temperature is 37.5°C. His mother brought him to the clinic because he has a cough. She says he is having trouble breathing. This is his initial visit for this illness.

The health worker checked Aziz for general danger signs. Aziz is able to drink. He has not been vomiting. He has not had convulsions. He is not lethargic or unconscious.

"How long has Aziz had this cough?" asked the health worker. His mother said he had been coughing for 6 or 7 days. Aziz sat quietly on his mother's lap. The health worker counted the number of breaths the child took in a minute. He counted 41 breaths per minute. He thought, "Since Aziz is over 12 months of age, the cut-off for determining fast breathing is 40. He has fast breathing."

The health worker did not see any chest indrawing. He did not hear stridor.

1. Here is how the health worker recorded Aziz's case information and signs of illness:

{Module 02 – page 023.jpg}

2. To classify Aziz's illness, the health worker looked at the classification table for cough or difficult breathing.
  - a. First, he checked to see if Aziz had any of the signs in the pink row. He thought, "Does Aziz have any general danger signs? No, he does not. Does Aziz have any of the other signs in this row? No, he does not." Aziz does not have any of the signs for a severe classification.
  - b. Next, the health worker looked at the yellow row. He thought, "Does

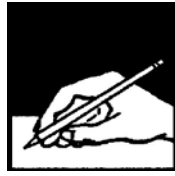
Aziz have signs in the yellow row? He has fast breathing."

- c. The health worker classified Aziz as having PNEUMONIA.

**{Module 02 – page 024a.jpg}**

- 3. He wrote PNEUMONIA on the Recording Form.

**{Module 02 – page 024b.jpg}**



## EXERCISE B

In this exercise, you will practice recording signs related to cough or difficult breathing. You will also classify the child's illness. Read the following case studies. Record the child's signs on the Recording Form and classify the illness. To do this exercise, look at a classification table for cough or difficult breathing. Use the one in your chart booklet or look at the wall chart.

**Note:** Be sure to tick (✓) "initial visit" on the top part of the Recording Form each time you do a case study in this module.

### Case 1: Gyatsu

Gyatsu is 6 months old. He weighs 5.5 kg. His temperature is 38°C. His mother said he has had cough for 2 days. The health worker checked for general danger signs. The mother said that Gyatsu is able to breastfeed. He has not vomited during this illness. He has not had convulsions. Gyatsu is not lethargic or unconscious.

The health worker said to the mother, "I want to check Gyatsu's cough. You said he has had cough for 2 days now. I am going to count his breaths. He will need to remain calm while I do this."

The health worker counted 58 breaths per minute. He did not see chest indrawing. He did not hear stridor.

- a. Record Gyatsu's signs on the Recording Form below.

{Module 02 – page 025.jpg}

- b. To classify Gyatsu's illness, look at the classification table for cough or difficult breathing in your chart booklet. Look at the pink (or top) row.

**{Module 02 – page 026.jpg}**

- Decide: Does Gyatsu have a general danger sign? Yes\_\_\_ No\_\_\_
  - Does he have chest indrawing or stridor when calm? Yes\_\_\_ No\_\_\_
  - Does he have the severe classification SEVERE PNEUMONIA OR VERY SEVERE DISEASE? Yes\_\_\_ No\_\_\_
- c. If he does not have the severe classification, look at the yellow (or middle) row.
- Does Gyatsu have fast breathing? Yes\_\_\_ No\_\_\_
- d. How would you classify Gyatsu's illness? Write the classification on the Recording Form.

## Case 2: Wambui

Wambui is 8 months old. She weighs 6 kg. Her temperature is 39°C.

Her father told the health worker, "Wambui has had cough for 3 days. She is having trouble breathing. She is very weak." The health worker said, "You have done the right thing to bring your child today. I will examine her now."

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

The health worker counted 55 breaths per minute. He saw chest indrawing. He decided Wambui had stridor because he heard a harsh noise when she breathed in.

Record Wambui's signs on the Recording Form below.

Now look at the classification table for cough or difficult breathing on the chart. Classify this child's illness and write your answer in the Classify column. Be prepared to explain to your facilitator how you selected the child's classification.

{Module 02 – page 027.jpg}

### **Case 3: Pemba**

Pemba is 18 months old. He weighs 9 kg, and his temperature is 37°C. His mother says he has had a cough for 3 days.

The health worker checked for general danger signs. Pemba's mother said that he is able to drink and has not vomited anything. He has not had convulsions. Pemba was not lethargic or unconscious.

The health worker counted the child's breaths. He counted 38 breaths per minute. The mother lifted the child's shirt. The health worker did not see chest indrawing. He did not hear stridor when he listened to the child's breathing.

Record Pemba's signs on the Recording Form below. Then look at the classification table for cough or difficult breathing on the chart. Classify this child's illness and write your answer in the Classify column.

{Module 02 – page 028.jpg}

Tell the facilitator when you are ready to discuss this exercise.





## EXERCISE C

**Note:** A picture like this one means you will do a video exercise. In a video exercise, you see examples of signs and practice identifying them. You also see demonstrations showing how to assess children for particular main symptoms. Sometimes you will see an actual case study. You will practice assessing and classifying the child's illness.

\* \* \*

In this exercise you will practice identifying general danger signs. You will also practice assessing cough or difficult breathing.

1. For each of the children shown, answer the question:

	Is the child lethargic or unconscious?	
	YES	NO
Child 1		
Child 2		
Child 3		
Child 4		

2. For each of the children shown, answer the question:

			Does the child have fast breathing?	
	Age	Breaths per minute	YES	NO
<b>Mano</b>				
<b>Wumbi</b>				

3. For each of the children shown, answer the question:

	Does the child have chest indrawing?	
	YES	NO
<b>Mary</b>		
<b>Jenna</b>		
<b>Ho</b>		
<b>Anna</b>		
<b>Lo</b>		

4. For each of the children shown, answer the question:

	Does the child have stridor?	
	YES	NO
<b>Petty</b>		
<b>Helen</b>		
<b>Simbu</b>		
<b>Hassan</b>		

**Video Case Study:** Watch the case study. Record the child's signs and symptoms on the Recording Form excerpt below. Then classify the child's illness.

{Module 02 – page 031.jpg}

## 4.0 ASSESS AND CLASSIFY DIARRHOEA

Diarrhoea occurs when stools contain more water than normal. Diarrhoea is also called **loose** or **watery** stools. It is common in children, especially those between 6 months and 2 years of age. 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. The number of stools normally passed in a day varies with the diet and age of the child. In many regions diarrhoea is defined as three or more loose or watery stools in a 24-hour period.

Mothers usually know when their children have diarrhoea. They may say that the child'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**. Cholera is one example of loose or watery diarrhoea. Only a small proportion of all loose or watery diarrhoeas are due to cholera.

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 a child 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**. The most common cause of dysentery is *Shigella* bacteria. Amoebic dysentery is not common in young children. A child may have both watery diarrhoea and dysentery.

## 4.1 ASSESS DIARRHOEA

A child with diarrhoea is assessed for:

- how long the child has had diarrhoea
- blood in the stool to determine if the child has dysentery, and for
- signs of dehydration.

Look at the following steps for assessing a child with diarrhoea:

{Module 02 – page 033.jpg}

Ask about diarrhoea in ALL children:

**ASK: Does the child have diarrhoea?**

Use words for diarrhoea the mother understands.

If the mother answers NO, ask about the next main symptom, fever. You do not need to assess the child further for signs related to 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 child for signs of dehydration, persistent diarrhoea and dysentery.

**ASK: For how long?**

Diarrhoea which lasts **14 days or more** is 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 at any time during this episode of diarrhoea.

\* \* \*

Next, check for signs of **dehydration**.

When a child becomes dehydrated, he is at first restless and irritable. If dehydration continues, the child becomes lethargic or unconscious.

As the child'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 child's general condition. Is the child lethargic or unconscious? restless and irritable?**

When you checked for general danger signs, you checked to see if the child was **lethargic or unconscious**. If the child is lethargic or unconscious, he has a general danger sign. Remember to use this general danger sign when you classify the child's diarrhoea.

A child has the sign **restless and irritable** if the child is restless and irritable all the time or every time he is touched and handled. If an infant or child is calm when breastfeeding but again restless and irritable when he stops breastfeeding, he has the sign "restless and irritable". Many children are upset just because they are in the clinic. Usually these children can be consoled and calmed. They do not have the sign "restless and irritable".

**LOOK for sunken eyes.**

The eyes of a child who is dehydrated may look sunken. Decide if you think the eyes are sunken. Then ask the mother if she thinks her child's eyes look unusual. Her opinion helps you confirm that the child's eyes are sunken.

Note: In a severely malnourished child who is visibly wasted (that is, who has marasmus), the eyes may always look sunken, even if the child is not dehydrated. Even though sunken eyes is less reliable in a visibly wasted child, still use the sign to classify the child's dehydration.

**OFFER the child fluid. Is the child not able to drink or drinking poorly? drinking eagerly, thirsty?**

Ask the mother to offer the child some water in a cup or spoon. Watch the child drink.

A child is *not able to drink* if he is not able to suck or swallow when offered a drink. A child may not be able to drink because he is lethargic or unconscious.

A child is *drinking poorly* if the child is weak and cannot drink without help. He may be able to swallow only if fluid is put in his mouth.

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

If the child takes a drink only with encouragement and does not want to drink more, he does not have the sign "drinking eagerly, thirsty."

**PINCH the skin of the abdomen. Does it go back: Very slowly (longer than 2 seconds)? Slowly?**

Ask the mother to place the child on the examining table so that the child is flat on his back with his arms at his sides (not over his head) and his legs straight. Or, ask the mother to hold the child so he is lying flat in her lap. Locate the area on the child's abdomen halfway between the umbilicus and the side of the abdomen. To do the skin pinch, use your thumb and first finger. Do not use your fingertips because this will cause pain. Place your hand so that when you pinch the skin, the fold of skin will be in a line up and down the child's body and not across the child's body. Firmly pick up all of the layers of skin and the tissue under them. Pinch the skin for one second and then release it. When you release the skin, look 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.

{Module 02 – page 036.jpg}

**Note:** In a child with marasmus (severe malnutrition), the skin may go back slowly even if the child is not dehydrated. In an overweight child, or a child with oedema, the skin may go back immediately even if the child is dehydrated. Even though skin pinch is less reliable in these children, still use it to classify the child's dehydration.





## EXERCISE D

In this exercise you will look at photographs of children with diarrhoea and identify signs of dehydration.

**Part 1:** Look at photographs 1 and 2 in the photograph booklet. Read the explanation for each photograph:

Photograph 1: This child's eyes are sunken.

Photograph 2: The skin pinch for this child goes back very slowly.

**Part 2:** Study photographs 3 through 7. Then write your answers to these questions:

Photograph 3: Look at the child's eyes. Are they sunken?

Photograph 4: Look at the child's eyes. Are they sunken?

Photograph 5: Look at the child's eyes. Are they sunken?

Photograph 6: Look at the child's eyes. Are they sunken?

Photograph 7: Look at this photo of a skin pinch. Does the skin go back slowly or very slowly?

When you have identified the signs of dehydration in these photographs, discuss your answers with the facilitator.

## 4.2 CLASSIFY DIARRHOEA

There are three classification tables for classifying diarrhoea.

- \* All children with diarrhoea are classified for dehydration.
- \* If the child has had diarrhoea for 14 days or more, classify the child for persistent diarrhoea.
- \* If the child has blood in the stool, classify the child for dysentery.

### 4.2.1 Classify Dehydration

There are three possible classifications of dehydration in a child with diarrhoea:

- SEVERE DEHYDRATION
- SOME DEHYDRATION
- NO DEHYDRATION

{Module 02 – page 038.jpg}

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

- If **two** or more of the signs in the pink row are present, classify the child as having SEVERE DEHYDRATION.
- If **two** or more of the signs are not present, look at the yellow (or middle) row. If two or more of the signs are present, classify the child as having SOME DEHYDRATION.
- If two or more of the signs from the yellow row are not present, classify the child as having NO DEHYDRATION. This child does not have enough signs to be classified as having SOME DEHYDRATION. Some of these children may have one sign of dehydration or have lost fluids without showing signs.

\* \* \*

**EXAMPLE:** A 4-month-old child named Clara was brought to the clinic because she had diarrhoea for 5 days. She did not have danger signs and she was not coughing. The health worker assessed the child's diarrhoea. He recorded the following signs:

{Module 02 – page 039a.jpg}

The child does not have two signs in the pink row. The child does not have SEVERE DEHYDRATION.

The child had two signs from the yellow row. The health worker classified the child's dehydration as SOME DEHYDRATION.

{Module 02 – page 039b.jpg}

The health worker recorded Clara's classification on the Recording Form.

{Module 02 – page 040.jpg}

\* \* \*

Here is a description of each classification for dehydration:

### **SEVERE DEHYDRATION**

If the child has two of the following signs -- lethargic or unconscious, sunken eyes, not able to drink or drinking poorly, skin pinch goes back very slowly -- classify the dehydration as SEVERE DEHYDRATION.

#### ***Treatment***

Any child with dehydration needs extra fluids. A child classified with SEVERE DEHYDRATION needs fluids quickly. Treat with IV (intravenous) fluids. The box "Plan C: Treat Severe Dehydration Quickly" on the *TREAT* chart describes how to give fluids to severely dehydrated children. You will learn more about Plan C in the module *Treat The Child*.

### **SOME DEHYDRATION**

If the child does not have signs of SEVERE DEHYDRATION, look at the next row. Does the child have signs of SOME DEHYDRATION?

If the child has two or more of the following signs -- restless, irritable, sunken eyes, drinks eagerly, thirsty, skin pinch goes back slowly -- classify the child's dehydration as SOME DEHYDRATION.

#### ***Treatment***

A child who has SOME DEHYDRATION needs fluid and foods. Treat the child with ORS solution.

In addition to fluid, the child with SOME DEHYDRATION needs food. Breastfed

children should continue breastfeeding. Other children should receive their usual milk or some nutritious food after 4 hours of treatment with ORS.

This treatment is described in the box "Plan B: Treat Some Dehydration With ORS" on the *TREAT* chart.

## **NO DEHYDRATION**

A child who does not have two or more signs in either the pink or yellow row is classified as having NO DEHYDRATION.

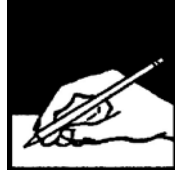
### ***Treatment***

This child needs extra fluid to prevent dehydration. A child who has NO DEHYDRATION needs home treatment. The 3 rules of home treatment are:

1. Give extra fluid
2. Continue feeding
3. When to return.

"Plan A: Treat Diarrhoea At Home" describes what fluids to teach the mother to use and how much she should give. A child with NO DEHYDRATION also needs food, and the mother needs advice about when to return to the clinic. Feeding recommendations and information about when to return are on the chart *COUNSEL THE MOTHER*.

Your facilitator will lead a drill to help you review the steps for checking a child for general danger signs. You will also review the steps for assessing a child with cough or difficult breathing.



## EXERCISE E

In this exercise, you will practice assessing and classifying dehydration in children with diarrhoea. Read the following case studies of children with diarrhoea. Use the dehydration classification table in the chart.

1. Pano has had diarrhoea for five days. He has no blood in the stool. He is irritable. His eyes are sunken. His father and mother also think that Pano's eyes are sunken. The health worker offers Pano some water, and the child drinks eagerly. When the health worker pinches the skin on the child's abdomen, it goes back slowly.

Record the child's signs and classification for dehydration on the Recording Form.

{Module 02 – page 042a.jpg}

Circle the child's signs on the classification table below to show how you selected the child's classification.

{Module 02 – page 042b.jpg}

2. Jane has had diarrhoea for 3 days. There was no blood in the stool. The child was not lethargic or unconscious. She was not irritable or restless. Her eyes were sunken. She was able to drink, but she was not thirsty. The skin pinch went back immediately.

Record the signs of dehydration and classify them on the Recording Form:

**{Module 02 – page 043a.jpg}**

3. Gretel has had diarrhoea for 2 days. She does not have blood in the stool. She is restless and irritable. Her eyes are sunken. She is not able to drink. A skin pinch goes back very slowly.

Record the signs of dehydration and classify them on the Recording Form:

**{Module 02 – page 043b.jpg}**

4. Jose has had diarrhoea for five days. There is no blood in the stool. The health worker assesses the child for dehydration. The child is not lethargic or unconscious. He is not restless and irritable. His eyes look normal and are not sunken. When offered water, the child drinks eagerly. A skin pinch goes back immediately.

Record the signs of dehydration and classify them on the Recording Form:

{Module 02 – page 044.jpg}

Tell your facilitator when you have completed this exercise.



### 4.2.2 Classify Persistent Diarrhoea

After you classify the child's dehydration, classify the child for persistent diarrhoea if the child has had diarrhoea for 14 days or more. There are two classifications for persistent diarrhoea.

- SEVERE PERSISTENT DIARRHOEA
- PERSISTENT DIARRHOEA

{Module 02 – page 045.jpg}

#### SEVERE PERSISTENT DIARRHOEA

If a child has had diarrhoea for 14 days or more and also has some or severe dehydration, classify the child's illness as SEVERE PERSISTENT DIARRHOEA.

##### ***Treatment***

Children with diarrhoea lasting 14 days or more who are also dehydrated need referral to hospital. These children need special attention to help prevent loss of fluid. They may also need a change in diet. They may need laboratory tests of stool samples to identify the cause of the diarrhoea.

Treat the child's dehydration before referral unless the child has another severe classification. Treatment of dehydration in children with severe disease can be difficult. These children should be treated in a hospital.

#### PERSISTENT DIARRHOEA

A child who has had diarrhoea for 14 days or more and who has no signs of dehydration is classified as having PERSISTENT DIARRHOEA.

##### ***Treatment***

Special feeding is the most important treatment for persistent diarrhoea. Feeding recommendations for persistent diarrhoea are explained in the module *Counsel The Mother*.

### 4.2.3 Classify Dysentery

There is only one classification for dysentery:

➤ **DYSENTERY**

{Module 02 – page 046a.jpg}

**DYSENTERY**

Classify a child with diarrhoea and blood in the stool as having DYSENTERY.

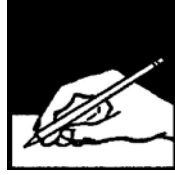
***Treatment***

Treat the child's dehydration. Also give an antibiotic recommended for *Shigella* in your area. You can assume that *Shigella* caused the dysentery because:

- *Shigella* cause about 60% of dysentery cases seen in clinics.
  - *Shigella* cause nearly all cases of life-threatening dysentery.
- Finding the actual cause of the dysentery requires a stool culture. It can take at least 2 days to obtain the laboratory test results.

**Note:** A child with diarrhoea may have one or more classifications for diarrhoea. Record any diarrhoea classifications the child has in the Classify column on the Recording Form. For example, this child was classified as having NO DEHYDRATION and DYSENTERY. Here is how the health worker recorded his classifications:

{Module 02 – page 046b.jpg}



## EXERCISE F

In this exercise, you will practice classifying several children with diarrhoea. Read these case studies. Record the child's signs and classify them on the Recording Form. Refer to your chart.

### Case 1: Maya

Maya is at the clinic today because she has had diarrhoea for 4 days. She is 25 months old. She weighs 9 kg. Her temperature is 37.0°C.

Maya has no general danger signs. She does not have cough or difficult breathing.

The health worker said to the mother, "When Maya has diarrhoea, is there any blood in the stool?" The mother said, "No." The health worker checked for signs of dehydration.

Maya is not lethargic or unconscious. She is not restless or irritable. Her eyes are not sunken. Maya drinks eagerly when offered some water. Her skin pinch goes back immediately.

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

{Module 02 – page 047.jpg}

## Case 2: Rana

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Rana is 14 months old. She weighs 12 kg. Her temperature is 37.5°C. Rana's mother said the child has had diarrhoea for 3 weeks.

{Module 02 – page 048a.jpg}

Rana does not have any general danger signs. She does not have cough or difficult breathing.

The health worker assessed her diarrhoea. He noted she has had diarrhoea for 21 days. He asked if there has been blood in the child's stool. The mother said, "No." The health worker checked Rana for signs of dehydration. The child is irritable throughout the visit. Her eyes are not sunken. She drinks eagerly. The skin pinch goes back immediately.

---

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

{Module 02 – page 048b.jpg}

### Case 3: Adeola

Adeola is 7 months old. She weighs 5.6 kg. Her temperature is 37°C. Her mother brought her to the clinic because Adeola has diarrhoea.

Adeola does not have any general danger signs. She does not have cough or difficult breathing.

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**{Module 02 – page 049a.jpg}**

The health worker assessed Adeola for signs of diarrhoea. The mother said the diarrhoea began 2 days ago. There is no blood in the stool. Adeola is not lethargic or unconscious, and she is not restless or irritable. Her eyes are sunken. When offered fluids, Adeola drinks eagerly as if she is thirsty. The skin pinch goes back immediately.

---

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

**{Module 02 – page 049b.jpg}**

#### **Case 4: Heera**

Heera is 3 years old. She weighs 10 kg. Her temperature is 37°C. Her mother came today because Heera has a cough and diarrhoea.

She does not have any general danger signs. The health worker assessed her for cough or difficult breathing. She has had cough for 3 days. He counted 36 breaths per minute. She does not have chest indrawing or stridor.

When the health worker asked how long Heera has had diarrhoea, the mother said, "For more than 2 weeks." There is no blood in the stool. Heera is irritable during the visit, but her eyes are not sunken. She is able to drink, but she is not thirsty. A skin pinch goes back immediately.

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

**{Module 02 – page 050.jpg}**

### **Case 5: Ernesto**

Ernesto is 10 months old. He weighs 8 kg. His temperature is 38.5°C. He is here today because he has had diarrhoea for 3 days. His mother noticed blood in the child's stool.

Ernesto does not have any general danger signs. He does not have cough or difficult breathing.

The health worker assesses the child for diarrhoea. "You said Ernesto has had blood in his stool. I will check now for signs of dehydration." The child is not lethargic or unconscious. He is not restless or irritable. He does not have sunken eyes. The child drank normally when offered some water and does not seem thirsty. The skin pinch goes back immediately.

Record Ernesto's signs and classify them on the Recording Form below.

**{Module 02 – page 051.jpg}**



## EXERCISE G

In this video exercise, you will see a demonstration of how to assess and classify a child with diarrhoea. You will see examples of signs and practice identifying them. Then you will see a case study and practice assessing and classifying the child's illness.

1. For each of the children shown, answer the question:

	Does the child have sunken eyes?	
	YES	NO
<b>Child 1</b>		
<b>Child 2</b>		
<b>Child 3</b>		
<b>Child 4</b>		
<b>Child 5</b>		
<b>Child 6</b>		

2. For each of the children shown, answer the question:

	Does the skin pinch go back:		
	very slowly?	slowly?	immediately?
<b>Child 1</b>			
<b>Child 2</b>			
<b>Child 3</b>			
<b>Child 4</b>			
<b>Child 5</b>			



**Video Case Study:** Watch the case study and record the child's signs on this Recording Form. Then classify the illness.

{Module 02 – page 053.jpg}

At the end of this videotape exercise, there will be a group discussion.

## 5.0 ASSESS AND CLASSIFY FEVER

A child with fever may have malaria, measles or another severe disease. Or, a child with fever may have a simple cough or cold or other viral infection.

**MALARIA:** Malaria is caused by parasites in the blood called "plasmodia." They are transmitted through the bite of anopheline mosquitoes. Four species of plasmodia can cause malaria, but the only dangerous one is *Plasmodium falciparum*. On the chart and in this module, malaria refers to falciparum malaria.

Fever is the main symptom of malaria. It can be present all the time or go away and return at regular intervals. Other signs of falciparum malaria are shivering, sweating and vomiting. A child with malaria may have chronic anaemia (with no fever) as the only sign of illness. (You will read more about anaemia in section 7.0.)

Signs of malaria can overlap with signs of other illnesses. For example, a child may have malaria and cough with fast breathing, a sign of pneumonia.<sup>3</sup> This child needs treatment for both falciparum malaria and pneumonia. An example of such treatment is cotrimoxazole. It is effective both as an antimalarial and antibiotic. Children with malaria may also have diarrhoea. They need an antimalarial and treatment for the diarrhoea.

In areas with very high malaria transmission, malaria is a major cause of death in children. A case of uncomplicated malaria can develop into severe malaria as soon as 24 hours after the fever first appears. Severe malaria is malaria with complications such as cerebral malaria or severe anaemia. The child can die if he does not receive urgent treatment.

\* \* \*

**Deciding Malaria Risk:** To classify and treat children with fever, you must know the malaria risk in your area.

\* There is a high malaria risk in areas where:

more than 5% of the fever cases in children are due to malaria.

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<sup>3</sup> Studies show that cough and fast breathing are common in children who have fever and falciparum malaria confirmed by blood smear. Even expert clinicians need laboratory tests to reliably distinguish falciparum malaria from pneumonia in a child with fever, cough and fast breathing.

\* There is a low malaria risk in areas where:

5% or less of the fever cases in children are due to malaria.<sup>4</sup>

Malaria risk can vary by season. The breeding conditions for mosquitoes are limited or absent during the dry season. As a result, during the dry season, the risk of malaria is usually low. Areas where malaria occurs but only rarely are also identified as low malaria risk.

For example, in the Gambia during the rainy season, conditions are favourable for mosquitoes to breed. The malaria risk during rainy season is high. Many children develop malaria. They present with fever, anaemia, and signs of cerebral malaria. During the dry season, there are almost no cases of malaria. Therefore, during dry season the malaria risk is low.<sup>5</sup>

There are parts of Africa where malaria commonly occurs during all or most of the year. In these areas, the malaria risk is high all year.

Find out the risk of malaria for your area. If the risk changes according to season, be sure you know when the malaria risk is high and when the risk is low. If you do not have information telling you that the malaria risk is low in your area, always assume that children under 5 who have fever are at high risk for malaria.

\* \* \*

**MEASLES:** Fever and a generalized rash are the main signs of measles. Measles is highly infectious. Maternal antibody protects young infants against measles for about 6 months. Then the protection gradually disappears. Most cases occur in children between 6 months and 2 years of age. Overcrowding and poor housing increase the risk of measles occurring early.

Measles is caused by a virus. It infects the skin and the layer of cells that line the lung, gut, eye, mouth and throat. The measles virus damages the immune system for many weeks after the onset of measles. This leaves the child at risk for other infections.

Complications of measles occur in about 30% of all cases. The most important are:

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<sup>4</sup> The definition of malaria risk should be based on results of investigations of the cause of illness in children with fever.

<sup>5</sup> Some areas usually have a low risk of malaria but also have periodic epidemics with high malaria morbidity and mortality. The health workers and the population in these areas might consider the risk of malaria to be high, even though the risk is usually very low. In this course, malaria risk in these areas is usually considered low; when an epidemic is occurring, the malaria risk is high.

- diarrhoea (including dysentery and persistent diarrhoea)
- pneumonia
- stridor
- mouth ulcers
- ear infection and
- severe eye infection (which may lead to corneal ulceration and blindness).

Encephalitis (a brain infection) occurs in about one in one thousand cases. A child with encephalitis may have a general danger sign such as convulsions or lethargic or unconscious.

Measles contributes to malnutrition because it causes diarrhoea, high fever and mouth ulcers. These problems interfere with feeding. Malnourished children are more likely to have severe complications due to measles. This is especially true for children who are deficient in vitamin A. One in ten severely malnourished children with measles may die. For this reason, it is very important to help the mother to continue to feed her child during measles.

## 5.1 ASSESS FEVER

*A child has the main symptom fever if:*

- \* the child has a history of fever or
- \* the child feels hot or
- \* the child has an axillary temperature of 37.5°C or above.<sup>6</sup>

Decide the malaria risk (high or low). Then assess a child with fever for:

- how long the child has had fever
- history of measles
- stiff neck
- runny nose
- signs suggesting measles -- which are generalized rash and one of these: cough, runny nose, or red eyes.
- if the child has measles now or within the last 3 months, assess for signs of measles complications. They are: mouth ulcers, pus draining from the eye and clouding of the cornea.

\* \* \*

The box on the next page lists the steps for assessing a child for fever.

There are two parts to the box. The top half of the box (above the broken line) describes how to assess the child for signs of malaria, measles, meningitis and other causes of fever. The bottom half of the box describes how to assess the child for signs of measles complications if the child has measles now or within the last 3 months.

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<sup>6</sup> On the *ASSESS & CLASSIFY* chart, fever and high fever are based on axillary temperature reading. Thresholds for rectal temperature readings are approximately 0.5°C higher.

If your clinic measures an **axillary** temperature, fever is 37.5°C (99.5°F). High fever is 38.5°C (101.3°F).  
If your clinic measures a **rectal** temperature, fever is 38°C (100.4°F). High fever is 39°C (102°F).

Ask about (or measure) fever in ALL sick children.

**ASK: Does the child have fever?**

Check to see if the child has a history of fever, feels hot or has a temperature of 37.5°C or above.

The child has a history of fever if the child has had any fever with this illness. Use words for "fever" that the mother understands. Make sure the mother understands what fever is. For example, ask the mother if the child's body has felt hot.

Feel the child's stomach or axilla (underarm) and determine if the child feels hot.

Look to see if the child's temperature was measured today and recorded on the child's chart. If the child has a temperature of 37.5°C or above, the child has fever.

If the child's temperature has not been measured, and you have a thermometer, measure the child's temperature.

If the child does not have fever (by history, feels hot or temperature 37.5°C or above), tick (✓) NO on the Recording Form. Ask about the next main symptom, ear problem. Do not assess the child for signs related to fever.

If the child has fever (by history, feels hot or temperature 37.5°C or above), assess the child for additional signs related to fever. Assess the child's fever

even if the child does not have a temperature of 37.5°C or above or does not feel hot now. History of fever is enough to assess the child for fever.

**{Module 02 – page 059.jpg}**

**DECIDE Malaria Risk: high or low**

Decide if the malaria risk is high or low. (Look at the definitions for high and low malaria risk in section 5.0.) In some areas, the malaria risk is always high.

Circle the malaria risk (high or low) on the Recording Form. You will use this information when you classify the child's fever.

**ASK: For how long? If more than 7 days, has fever been present every day?**

Ask the mother how long the child has had fever. If the fever has been present for more than 7 days, ask if the fever has been present every day.

Most fevers due to viral illnesses go away within a few days. A fever which has been present every day for more than 7 days can mean that the child has a more severe disease such as typhoid fever. Refer this child for further assessment.

**ASK: Has the child had measles within the last 3 months?**

Measles damages the child's immune system and leaves the child at risk for other infections for many weeks.

A child with fever and a history of measles within the last 3 months may have an infection due to complications of measles such as an eye infection.

**LOOK or FEEL for stiff neck.**

A child with fever and stiff neck may have meningitis. A child with meningitis needs urgent treatment with injectable antibiotics and referral to a hospital.

While you talk with the mother during the assessment, look to see if the child moves and bends his neck easily as he looks around. If the child is moving and bending his neck, he does not have a stiff neck.

If you did not see any movement, or if you are not sure, draw the child's attention to his umbilicus or toes. For example, you can shine a flashlight on his toes or umbilicus or tickle his toes to encourage the child to look down. Look to see if the child can bend his neck when he looks down at his umbilicus or toes.

If you still have not seen the child bend his neck himself, ask the mother to help you lie the child on his back. Lean over the child, gently support his back and shoulders with one hand. With the other hand, hold his head. Then carefully bend the head forward toward his chest. If the neck bends easily, the child does not have stiff neck. If the neck feels stiff and there is resistance to bending, the child has a stiff neck. Often a child with a stiff neck will cry when you try to bend the neck.

**{Module 02 – page 060.jpg}**



## **LOOK for runny nose.**

A runny nose in a child with fever may mean that the child has a common cold.

If the child has a runny nose, ask the mother if the child has had a runny nose only with this illness. If she is not sure, ask questions to find out if it is an acute or chronic runny nose.

When malaria risk is low, a child with fever and a runny nose does not need an antimalarial. This child's fever is probably due to the common cold.

## **LOOK for signs suggesting MEASLES.**

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

### **Generalized rash**

In measles, a red rash begins behind the ears and on the neck. It spreads to the face. During the next day, the rash spreads to the rest of the body, arms and legs. After 4 to 5 days, the rash starts to fade and the skin may peel. Some children with severe infection may have more rash spread over more of the body. The rash becomes more discoloured (dark brown or blackish), and there is more peeling of the skin.

A measles rash does not have vesicles (blisters) or pustules. The rash does not itch. Do not confuse measles with other common childhood rashes such as chicken pox, scabies or heat rash. (The chicken pox rash is a generalized rash with vesicles. Scabies occurs on the hands, feet, ankles, elbows, buttocks and axilla. It also itches. Heat rash can be a generalized rash with small bumps and vesicles which itch. A child with heat rash is not sick.) You can recognize measles more easily during times when other cases of measles are occurring in your community.

### **Cough, Runny Nose, or Red Eyes**

To classify a child as having measles, the child with fever must have a generalized rash AND one of the following signs: cough, runny nose, or red eyes. The child has "red eyes" if there is redness in the white part of the eye. In a healthy eye, the white part of the eye is clearly white and not discoloured.



## EXERCISE H

**Part 1:** Study the photographs numbered 8 through 11. They show examples of common childhood rashes. Read the explanation for each of these photographs.

Photograph 8: This child has the generalized rash of measles and red eyes.

Photograph 9: This example shows a child with heat rash. It is not the generalized rash of measles.

Photograph 10: This is an example of scabies. It is not the generalized rash of measles.

Photograph 11: This is an example of a rash due to chicken pox. It is not a measles rash.

**Part 2:** Study photographs 12 through 21 showing children with rashes. For each photograph, tick whether the child has the generalized rash of measles. Use the answer sheet on the next page.

**Part 2 (continued):**

	Is the generalized rash of measles present?	
	YES	NO
Photograph 12		
Photograph 13		
Photograph 14		
Photograph 15		
Photograph 16		
Photograph 17		
Photograph 18		
Photograph 19		
Photograph 20		
Photograph 21		

Tell your facilitator when you are ready to discuss your answers to this exercise.

**f the child has MEASLES now or within the last 3 months:** Look to see if the

child has mouth or eye complications. Other complications of measles such as stridor in a calm child, pneumonia, and diarrhoea are assessed earlier; malnutrition and ear infection are assessed later.

**LOOK for mouth ulcers. Are they deep and extensive?**

Look inside the child's mouth for mouth ulcers. Ulcers are painful open sores on the inside of the mouth and lips or the tongue. They may be red or have white coating on them. In severe cases, they are deep and extensive. When present, mouth ulcers make it difficult for the child with measles to drink or eat.

Mouth ulcers are different than the small spots called Koplik spots. Koplik spots occur in the mouth inside the cheek during early stages of the measles infection. Koplik spots are small, irregular, bright red spots with a white spot in the center. They do not interfere with drinking or eating. They do not need treatment.



## EXERCISE I

In this exercise, you will look at photographs of children with measles. You will practice identifying mouth ulcers.

**Part 1:** Study photographs 22 through 24, and read the explanation for each one.

Photograph 22: This is an example of a normal mouth. The child does not have mouth ulcers.

Photograph 23: This child has Koplik spots. These spots occur in the mouth inside the cheek early in a measles infection. They are not mouth ulcers.

Photograph 24: This child has a mouth ulcer.

**Part 2:** Study photographs 25 through 27 showing children with measles. Look at each photograph and tick if the child has mouth ulcers.

	Does the child have mouth ulcers?	
	YES	NO
Photograph 25		
Photograph 26		
Photograph 27		

Tell your facilitator when you are ready to discuss your answers to this exercise.

*The normal eye:*

{Module 02 – page 066.jpg}

The conjunctiva lines the eyelids and covers the white part of the eye. The iris is the coloured part of the eye. The normal cornea (the clear window of the eye) is bright and transparent. Through it, you can see the iris and the round pupil at its middle. A normal cornea is clear. You can see the colour of the iris clearly. The pupil is black.

**LOOK for pus draining from the eye.**

Pus draining from the eye is a sign of conjunctivitis. Conjunctivitis is an infection of the conjunctiva, the inside surface of the eyelid and the white part of the eye.

If you do not see pus draining from the eye, look for pus on the conjunctiva or on the eyelids.

Often the pus forms a crust when the child is sleeping and seals the eye shut. It can be gently opened with clean hands. Wash your hands after examining the eye of any child with pus draining from the eye.

**LOOK for clouding of the cornea.**

The cornea is usually clear. When clouding of the cornea is present, there is a hazy area in the cornea.

Look carefully at the cornea for clouding. The cornea may appear clouded or

hazy, such as how a glass of water looks when you add a small amount of milk. The clouding may occur in one or both eyes.

Corneal clouding is a dangerous condition. The corneal clouding may be due to vitamin A deficiency which has been made worse by measles. If the corneal clouding is not treated, the cornea can ulcerate and cause blindness. A child with clouding of the cornea needs urgent treatment with vitamin A.

A child with corneal clouding may keep his eyes tightly shut when exposed to light. The light may cause irritation and pain to the child's eyes. To check the child's eye, wait for the child to open his eye. Or, gently pull down the lower eyelid to look for clouding.

If there is clouding of the cornea, ask the mother how long the clouding has been present. If the mother is certain that clouding has been there for some time, ask if the clouding has already been assessed and treated at the hospital. If it has, you do not need to refer this child again for corneal clouding.



## EXERCISE J

In this photograph exercise, you will practice identifying eye complications of measles.

**Part 1:** Study photographs 28 through 30.

Photograph 28: This is a normal eye showing the iris, pupil, conjunctiva and cornea. The child has been crying. There is no pus draining from the eye.

Photograph 29: This child has pus draining from the eye.

Photograph 30: This child has clouding of the cornea.

**Part 2:** Now look at photographs 31 through 37. For each photograph, answer each question by writing "yes" or "no" in each column. If you cannot decide if pus is draining from the eye or if clouding of the cornea is present, write "not able to decide." Use the answer sheet on the next page.



**Part 2 (continued):**

	Does the child have:	
	Pus draining from the eye?	Clouding of the cornea?
Photograph 31		
Photograph 32		
Photograph 33		
Photograph 34		
Photograph 35		
Photograph 36		
Photograph 37		

Tell your facilitator when you are ready to discuss your answers to this exercise.

Your facilitator will lead a drill for you to practice determining whether fast breathing is present based on the number of breaths the child takes in one minute.

## 5.2 CLASSIFY FEVER

If the child has fever and no signs of measles, classify the child for fever only.

If the child has signs of both fever and measles, classify the child for fever and for measles.

There are two fever classification tables on the *ASSESS & CLASSIFY* chart. One is for classifying fever when the risk of malaria is high. The other is for classifying fever when the risk of malaria is low. To classify fever, you must know if the malaria risk is high or low. Then you select the appropriate classification table.

{Module 02 – page 070.jpg}

### ***HIGH MALARIA RISK:***

There are two possible classifications of fever when the malaria risk is high.

- VERY SEVERE FEBRILE DISEASE
- MALARIA

{Module 02 – page 071.jpg}

### **VERY SEVERE FEBRILE DISEASE (*High Malaria Risk*)**

If the child with fever has any general danger sign or a stiff neck, classify the child as having VERY SEVERE FEBRILE DISEASE.

#### ***Treatment***

A child with fever and any general danger sign or stiff neck may have meningitis, severe malaria (including cerebral malaria) or sepsis. It is not possible to distinguish between these severe diseases without laboratory tests. A child classified as having VERY SEVERE FEBRILE DISEASE needs urgent treatment and referral. Before referring urgently, you will give several treatments for the possible severe diseases.

Give the child an injection of quinine for malaria. Also give the first dose of an appropriate antibiotic for meningitis or other severe bacterial infection. You should also treat the child to prevent low blood sugar. Also give paracetamol if there is a high fever.

### **MALARIA (*High Malaria Risk*)**

If a general danger sign or stiff neck is not present, look at the yellow row. Because the child has a fever (by history, feels hot, or temperature 37.5°C or above) in a high malaria risk area, classify the child as having MALARIA.

When the risk of malaria is high, the chance is also high that the child's fever is due to malaria.

### ***Treatment***

Treat a child classified as having MALARIA with an oral antimalarial. If the child also has cough and fast breathing, the child may have malaria or pneumonia, or both. It is not possible without laboratory tests to find out if the child has malaria or pneumonia. Give the child cotrimoxazole for 5 days. It is effective as both an antibiotic and an antimalarial. Also give paracetamol to a child with high fever (axillary temperature of 38.5°C or above).

Most viral infections last less than a week. A fever that persists every day for more than 7 days may be a sign of typhoid fever or other severe disease. If the child's fever has persisted every day for more than 7 days, refer the child for additional assessment.

---

*FOR LOW MALARIA RISK ONLY:*

If you do not see children when there is a low malaria risk, do not read about classifying fever when there is a low malaria risk. Turn now to section 5.3 and read "Classify Measles."

If you do see children when the risk of malaria is low, use the Low Malaria Risk classification table. (Low malaria risk is defined in section 5.0). In some low malaria risk areas, there may be families who travel to work in areas where there is a high malaria risk. If the mother tells you she has travelled with the child to an area where you know there is a high malaria risk, use the High Malaria Risk classification table.

\* \* \*

There are three possible classifications of fever in a child with low malaria risk.

- VERY SEVERE FEBRILE DISEASE
- MALARIA
- FEVER - MALARIA UNLIKELY

**{Module 02 – page 073.jpg}**

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**FOR LOW MALARIA RISK ONLY:**

To classify fever when there is a low malaria risk, use the classification table for "Low Malaria Risk."

**EXAMPLE:** A 2-year old child is brought to the clinic because he has felt hot for 2 days. He does not have general danger signs. He does not have cough or difficult breathing or diarrhoea. When the health worker assessed the child's fever, he recorded these signs:

{Module 02 – page 074.jpg}

Because the risk of malaria is low, the health worker selected the table for classifying fever when there is a Low Malaria Risk.

The child does not have any of the signs in the pink row -- general danger signs or stiff neck. The health worker did not select the severe classification **VERY SEVERE FEBRILE DISEASE**.

Next he looked at the yellow row. To select the classification **MALARIA** when the risk of malaria is low, the child must have all three of the signs in the yellow row -- **NO** runny nose, **NO** measles and **NO** other cause of fever. This child has a runny nose. The health worker did not select the classification **MALARIA**.

He looked at the green row. Because the child has a runny nose, he classified the child as having **FEVER - MALARIA UNLIKELY**.

---

*FOR LOW MALARIA RISK ONLY:*

**{Module 02 – page 075a.jpg}**

He recorded the classification on the Recording Form:

**{Module 02 – page 075b.jpg}**

-----  
*FOR LOW MALARIA RISK ONLY:*

**VERY SEVERE FEBRILE DISEASE** (*Low Malaria Risk*)

If the child has any general danger sign or a stiff neck, and the malaria risk is low, classify the child as having VERY SEVERE FEBRILE DISEASE.

***Treatment***

The treatment for a child classified as having VERY SEVERE FEBRILE DISEASE when there is a low malaria risk is the same as VERY SEVERE FEBRILE DISEASE in a high malaria risk area (see section 5.2).

**MALARIA** (*Low Malaria Risk*)

If the child does not have signs of VERY SEVERE FEBRILE DISEASE, look at the next row. When the risk of malaria is low, a child with fever and NO runny nose, NO measles and NO other cause of fever, is classified as having MALARIA.

When the risk of malaria is low, the chance that a child's fever is due to malaria is low. There is an even lower chance of malaria if the child has signs of another infection that can cause fever. For example, the child's fever may be due to a common cold (suggested by the runny nose), measles, or another obvious cause such as cellulitis, an abscess or ear infection. When signs of another infection are not present, classify and treat the illness as MALARIA even though the malaria risk is low.

***Treatment***

Treat a child classified as having MALARIA with an oral antimalarial. If the child also has cough and fast breathing, the child may have malaria or pneumonia, or both. It is not possible without laboratory tests to find out if the child has malaria or pneumonia. Give the child cotrimoxazole for 5 days. It is effective as both an antibiotic and an antimalarial. Give paracetamol if the child has high fever (axillary temperature of 38.5°C or above).

If the fever has been present every day for more than 7 days, refer for assessment.

**FEVER - MALARIA UNLIKELY**

If the child does not have signs of VERY SEVERE FEBRILE DISEASE or of MALARIA, look at the last row. When the malaria risk is low and the child has a runny nose, measles or other cause of fever, classify the child as having FEVER - MALARIA UNLIKELY. The chance that this child's fever is due to malaria is very low. It is safe to not treat the child with an antimalarial during this visit.



---

*FOR LOW MALARIA RISK ONLY:*

***Treatment***

If the child's fever is high, give paracetamol. Advise the mother to return for follow-up in 2 days if the fever persists.

If the fever has been present every day for more than 7 days, refer for assessment.

### 5.3 CLASSIFY MEASLES

A child who has the main symptom "fever" and measles now (or within the last 3 months) is classified both for fever and for measles. First you must classify the child's fever. Next you classify measles.

{Module 02 – page 078.jpg}

If the child has no signs suggesting measles, or has not had measles within the last three months, do not classify measles. Ask about the next main symptom, ear problem.

\* \* \*

There are three possible classifications of measles:

- SEVERE COMPLICATED MEASLES
- MEASLES WITH EYE OR MOUTH COMPLICATIONS
- MEASLES

The table for classifying measles if present now or within the last 3 months is on the next page.

## **SEVERE COMPLICATED MEASLES**

If the child has any general danger sign, clouding of cornea, or deep or extensive mouth ulcers, classify the child as having SEVERE COMPLICATED MEASLES. This child needs urgent treatment and referral to hospital.

Children with measles may have other serious complications of measles. These include stridor in a calm child, severe pneumonia, severe dehydration, or severe malnutrition. You assess and classify these signs in other parts of the assessment. Their treatments are appropriate for the child with measles.

### ***Treatment***

Some complications are due to bacterial infections. Others are due to the measles virus which causes damage to the respiratory and intestinal tracts. Vitamin A deficiency contributes to some of the complications such as corneal ulcer. Any vitamin A deficiency is made worse by the measles infection. Measles complications can lead to severe disease and death.

All children with SEVERE COMPLICATED MEASLES should receive urgent treatment. Treat the child with vitamin A. Also give the first dose of an appropriate antibiotic.

If there is clouding of the cornea, or pus draining from the eye, apply tetracycline ointment. If it is not treated, corneal clouding can result in blindness. Ask the mother if the clouding has been present for some time. Find out if it was assessed and treated at the hospital. If it was, you do not need to refer the child again for this eye sign.

## **MEASLES WITH EYE OR MOUTH COMPLICATIONS**

If the child has pus draining from the eye or mouth ulcers which are not deep or extensive, classify the child as having MEASLES WITH EYE OR MOUTH COMPLICATIONS. A child with this classification does not need referral.

You assess and classify the child for other complications of measles (pneumonia, diarrhoea, ear infection and malnutrition) in other parts of this assessment. Their treatments are appropriate for the child with measles.

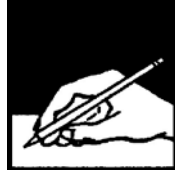
### ***Treatment***

Identifying and treating measles complications early in the infection can prevent many deaths. Treat the child with vitamin A. It will help correct any vitamin A deficiency and decrease the severity of the complications. Teach the mother to treat the child's eye infection or mouth ulcers at home. Treating mouth ulcers helps the child to more quickly resume normal feeding.

## **MEASLES**

A child with measles now or within the last 3 months and with none of the complications listed in the pink or yellow rows is classified as having MEASLES. Give the child vitamin A to help prevent measles complications.

All children with measles should receive vitamin A.



## EXERCISE K

In this exercise, you will classify illness in children with signs of fever and, if present, signs suggesting measles. First, you will study an example. Then you will begin the exercise.

Read the example case study that begins on this page. Also study how the health worker classified this child's illness. When all the participants are ready, there will be a group discussion about this example.

\* \* \*

**EXAMPLE:** Paulo is 10 months old. He weighs 8.2 kg. His temperature is 37.5°C. His mother says he has a rash and cough.

The health worker checked Paulo for general danger signs. Paulo was able to drink, was not vomiting, did not have convulsions and was not lethargic or unconscious.

The health worker next asked about Paulo's cough. The mother said Paulo had been coughing for 5 days. He counted 43 breaths per minute. He did not see chest indrawing. He did not hear stridor when Paulo was calm.

Paulo did not have diarrhoea.

Next the health worker asked about Paulo's fever. The malaria risk is high. The mother said Paulo has felt hot for 2 days. Paulo did not have a stiff neck. He has had a runny nose with this illness, his mother said.

Paulo has a rash covering his whole body. Paulo's eyes were red. The health worker checked the child for complications of measles. There were no mouth ulcers. There was no pus draining from the eye and no clouding of the cornea.

1. Here is how the health worker recorded Paulo's case information and signs of illness.

**{Module 02 – page 082.jpg}**

2. To classify Paulo's fever, the health worker looked at the table for classifying fever when there is a High Malaria Risk.
  - a. He checked to see if Paulo had any of the signs in the pink row. He thought, "Does Paulo have any general danger signs? No, he does not. Does Paulo have a stiff neck? No, he does not. Paulo does not have any signs of VERY SEVERE FEBRILE DISEASE."
  - b. Next, the health worker looked at the yellow row. He thought, "Paulo has a fever. His temperature measures 37.5°C. He also has a history of fever because his mother says Paulo felt hot for 2 days. He classified Paulo as having MALARIA."
  - c. Because Paulo had a generalized rash and red eyes, Paulo has signs suggesting measles. To classify Paulo's measles, the health worker looked at the classification table for classifying measles.

- d. He checked to see if Paulo had any of the signs in the pink row. He thought, "Paulo does not have any general danger signs. The child does not have clouding of the cornea. There are no deep or extensive mouth ulcers. Paulo does not have SEVERE COMPLICATED MEASLES."
- e. Next the health worker looked at the yellow row. He thought, "Does Paulo have any signs in the yellow row? He does not have pus draining from the eye. There are no mouth ulcers. Paulo does not have MEASLES WITH EYE OR MOUTH COMPLICATIONS."
- f. Finally the health worker looked at the green row. Paulo has measles, but he has no signs in the pink or yellow row. The health worker classified Paulo as having MEASLES.

**{Module 02 – page 083a.jpg}**

**{Module 02 – page 083b.jpg}**

Now read the following case studies. Record each child's signs and their classifications on the Recording Form. Remember to look at the chart to classify the signs.

**Case 1: Kareem**

Kareem is 5 months old. He weighs 5.2 kg. His axillary temperature is 37.5°C. His mother said he is not eating well. She said he feels hot, and she wants a health worker to help him.

Kareem is able to drink, has not vomited, does not have convulsions, and is not lethargic or unconscious.

Kareem does not have a cough, said his mother. He does not have diarrhoea.

Because Kareem's temperature is 37.5°C and he feels hot, the health worker assessed Kareem further for signs related to fever. It is the rainy season, and the risk of malaria is high. The mother said Kareem's fever began 2 days ago. He has not had measles within the last 3 months. He does not have stiff neck, his nose is not runny, and there are no signs suggesting measles.

Record Kareem's signs and classify them on the Recording Form on the next page.



**{Module 02 – page 085.jpg}**

**Case 2: Anders**

Anders is 3 years old. He weighs 9.4 kg. His temperature is 37°C. His mother says he feels hot. He also has a cough, she says.

The health worker checked for general danger signs. Anders was able to drink, had not vomited, did not have convulsions, and was not lethargic or unconscious.

The mother said Anders had been coughing for 3 days. The health worker counted 51 breaths a minute. He did not see chest indrawing. There was no stridor when Anders was calm.

Anders does not have diarrhoea.

The health worker also thought that Anders felt hot. He assessed the child further for signs of fever. The risk of malaria is high. He has felt hot for 5 days, the mother said. He has not had measles within the last 3 months. He did not have a stiff neck, there was no runny nose, and no generalized rash.

Record the child's signs and classify them on the Recording Form on the next page.

**{Module 02 – page 087.jpg}**

### **Case 3: Atika**

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

The health worker said, "I am going to check her cough now." The health worker counted 43 breaths per minute. There was no chest indrawing and no stridor when Atika was calm.

Atika did not have diarrhoea.

"Now, I will check her fever," said the health worker. Atika lives in an area where many cases of malaria occur all year long (high malaria risk). Her mother said, "Atika has felt hot off and on for 2 days." She has not had measles within the last 3 months. She does not have stiff neck or runny nose.

Atika has a generalized rash. Her eyes are red. She has mouth ulcers. They are not deep and extensive. She does not have pus draining from the eye. She does not have clouding of the cornea.

Record the child's signs and classify them on the Recording Form on the next page.

**{Module 02 – page 089.jpg}**

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**FOR LOW MALARIA RISK ONLY:**

If you do not see children when the risk of malaria is low, do not do Cases 4 through 6. Tell your facilitator that you are ready to discuss your answers for Cases 1 through 3.

If you see children when the risk of malaria is low, do Cases 4 through 6.

\* \* \*

**Case 4: Dolma**

Dolma is 12 months old. She weighs 7.2 kg. Her axillary temperature is 36.5°C. Her mother brought Dolma to the health centre today because she feels hot.

Dolma has no general danger signs. She does not have cough or difficult breathing.

When asked about diarrhoea, the mother said, "Yes, Dolma has had diarrhoea for 2 to 3 days." She has not seen any blood in the stool. Dolma has not been lethargic or unconscious. Her eyes are not sunken. She drinks normally. Her skin pinch returns immediately.

The health worker said, "You brought Dolma today because she feels hot. I will check her for fever." The risk of malaria is low. Her mother said that Dolma has felt hot for 2 days. She has not had measles within the last 3 months. There is no stiff neck, no runny nose, and no generalized rash. She has no other cause of fever.

Record the child's signs and classify them on the Recording Form on the next page.

**{Module 02 – page 091.jpg}**

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*FOR LOW MALARIA RISK ONLY:*

**Case 5: Surita**

Surita is 3 years old. She weighs 10 kg. Her axillary temperature is 38°C.

Her mother brought her to the health centre because she has a cough. She also has a rash.

The health worker checked Surita for danger signs. She was able to drink, she had not been vomiting everything, and she did not have convulsions. She was not lethargic or unconscious.

The health worker assessed Surita's cough. The mother told the health worker Surita had been coughing for 2 days. The health worker counted 42 breaths per minute. The health worker did not see chest indrawing. He did not hear stridor when Surita was calm.

When the health worker asked if Surita had diarrhoea, the mother said, "No."

Next the health worker assessed Surita's fever. It is the dry season and the risk of malaria is low. She has felt hot for 3 days, the mother said. She does not have stiff neck. She does not have a runny nose.

Surita has a generalized rash. Her eyes are red. She does not have mouth ulcers. Pus is not draining from the eye. There is no clouding of the cornea.

Record the child's signs and classify them on the Recording Form on the next page.



**{Module 02 – page 093.jpg}**

-----  
*FOR LOW MALARIA RISK ONLY:*

**Case 6: Afiya**

Afiya is 24 months old. He weighs 9.5 kg. His axillary temperature is 37°C. His mother says Afiya has not been eating well lately, and she is worried about him.

The health worker checked for general danger signs. Afiya is able to drink, he is not vomiting, he has not had convulsions and he is not lethargic or unconscious.

Afiya does not have cough, and he does not have diarrhoea.

The health worker asked if the mother thought Afiya had fever. She said he has been feeling hot the last 2 days. The malaria risk is always low. He has not had measles within the last 3 months. He does not have stiff neck, and there is no runny nose.

He does not have a rash. He does not have signs suggesting measles. No other cause of fever is present.

**{Module 02 – page 095.jpg}**

Tell your facilitator when you are ready to discuss your answers.



## EXERCISE L

In this exercise, you will watch a demonstration of how to assess and classify a child with fever. You will see examples of signs related to fever and measles. You will practice identifying stiff neck. Then you will watch a case study.

For each of the children shown, answer the question:

	Does the child have a stiff neck?	
	YES	NO
Child 1		
Child 2		
Child 3		
Child 4		

**Video Case Study:** Record the child's signs and their classifications on the Recording Form below.

{Module 02 – page 097.jpg}

## **6.0 ASSESS AND CLASSIFY EAR PROBLEM**

A child with an ear problem may have an ear infection.

When a child has an ear infection, pus collects behind the ear drum and causes pain and often fever. If the infection is not treated, the ear drum may burst. The pus discharges, and the child feels less pain. The fever and other symptoms may stop, but the child suffers from poor hearing because the ear drum has a hole in it. Usually the ear drum heals by itself. At other times the discharge continues, the ear drum does not heal, and the child becomes deaf in that ear.

Sometimes the infection can spread from the ear to the bone behind the ear (the mastoid) causing mastoiditis. Infection can also spread from the ear to the brain causing meningitis. These are severe diseases. They need urgent attention and referral.

Ear infections rarely cause death. However, they cause many days of illness in children. Ear infections are the main cause of deafness in developing countries, and deafness causes learning problems in school. The *ASSESS & CLASSIFY* chart helps you identify ear problems due to ear infection.

### **6.1 ASSESS EAR PROBLEM**

A child with ear problem is assessed for:

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

Here is the box from the "Assess" column that tells you how to assess a child for ear problem.

{Module 02 – page 099.jpg}

Ask about ear problem in ALL sick children.

**ASK: Does the child have an ear problem?**

If the mother answers NO, record her answer. Do not assess the child for ear problem. Go to the next question and check for malnutrition and anaemia.

If the mother answers YES, ask the next question:

**ASK: Does the child have ear pain?**

Ear pain can mean that the child has an ear infection. If the mother is not sure that the child has ear pain, ask if the child has been irritable and rubbing his ear.

**ASK: Is there ear discharge? If yes, for how long?**

Ear discharge is also a sign of infection.

When asking about ear discharge, use words the mother understands.

If the child has had ear discharge, ask for how long. Give her time to answer the question. She may need to remember when the discharge started.

You will classify and treat the ear problem depending on how long the ear

discharge has been present.

- An ear discharge that has been present for 2 weeks or more is treated as a chronic ear infection.
- An ear discharge that has been present for less than 2 weeks is treated as an acute ear infection.

You do not need more accurate information about how long the discharge has been present.

### **LOOK for pus draining from the ear.**

Pus draining from the ear is a sign of infection, even if the child no longer has any pain. Look inside the child's ear to see if pus is draining from the ear.

### **FEEL for tender swelling behind the ear.**

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

Both tenderness and swelling must be present to classify mastoiditis, a deep infection in the mastoid bone. Do not confuse this swelling of the bone with swollen lymph nodes.

**{Module 02 – page 100.jpg}**



## 6.2 CLASSIFY EAR PROBLEM

There are four classifications for ear problem:

- MASTOIDITIS
- ACUTE EAR INFECTION
- CHRONIC EAR INFECTION
- NO EAR INFECTION

Here is the classification table for ear problem from the *ASSESS & CLASSIFY* chart.

{Module 02 – page 101.jpg}

### MASTOIDITIS

If a child has tender swelling behind the ear, classify the child as having MASTOIDITIS.

#### ***Treatment***

Refer urgently to hospital. This child needs treatment with injectable antibiotics. He may also need surgery. Before the child leaves for hospital, give the first dose of an appropriate antibiotic. Also give one dose of paracetamol if the child is in pain.

### ACUTE EAR INFECTION

If you see pus draining from the ear and discharge has been present for less than two weeks, or if there is ear pain, classify the child's illness as ACUTE EAR INFECTION.

#### ***Treatment***

Give a child with an ACUTE EAR INFECTION an appropriate antibiotic. Antibiotics for treating pneumonia are effective against the bacteria that cause most ear infections. Give paracetamol to relieve the ear pain (or high fever). If pus is draining from the ear, dry the ear by wicking.

## **CHRONIC EAR INFECTION**

If you see pus draining from the ear and discharge has been present for two weeks or more, classify the child's illness as CHRONIC EAR INFECTION.

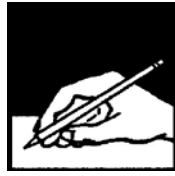
### ***Treatment***

Most bacteria that cause CHRONIC EAR INFECTION are different from those which cause acute ear infections. For this reason, oral antibiotics are not usually effective against chronic infections. Do not give repeated courses of antibiotics for a draining ear.

The most important and effective treatment for CHRONIC EAR INFECTION is to keep the ear dry by wicking. Teach the mother how to dry the ear by wicking.

## **NO EAR INFECTION**

If there is no ear pain and no pus is seen draining from the ear, the child's illness is classified as NO EAR INFECTION. The child needs no additional treatment.



## EXERCISE M

These two case studies describe children who have ear problems. Record each child's signs and their classifications on the part of the Recording Form for ear problem. Look at the wall chart or in your chart booklet for help classifying signs.

### Case 1: Mbira

Mbira is 3 years old. She weighs 13 kg. Her temperature is 37.5°C. Her mother came to the clinic today because Mbira has felt hot for the last 2 days. She was crying last night and complained that her ear is hurting.

The health worker checked and found no general danger signs.

Mbira does not have cough or difficult breathing. She does not have diarrhoea. Her malaria risk is high. Her fever was classified as **MALARIA**.

Next the health worker asked about Mbira's ear problem. The mother said she is sure Mbira has ear pain. The child cried most of the night because her ear hurt. There has been discharge coming from Mbira's ear on and off for about a year, said the mother. The health worker did not see any pus draining from the child's ear. He felt behind the child's ears and felt tender swelling behind one ear.

Record Mbira's signs of ear problem and classify them on the Recording Form.

{Module 02 – page 103.jpg}

## **Case 2: Dana**

Dana is 18 months old. She weighs 9 kg. Her temperature is 37°C. Her mother said that Dana had discharge coming from her ear for the last 3 days.

Dana does not have any general danger signs. She does not have cough or difficult breathing. She does not have diarrhoea and she does not have fever.

The health worker asked about Dana's ear problem. The mother said that Dana does not have ear pain, but the discharge has been coming from the ear for 3 or 4 days. The health worker saw pus draining from the child's right ear. He did not feel any tender swelling behind either ear.

Record Dana's signs of ear problem and classify them on the Recording Form.

**{Module 02 – page 104.jpg}**

**Tell your facilitator when you are ready to discuss your answers.**

## 7.0 CHECK FOR MALNUTRITION AND ANAEMIA

Check all sick children for signs suggesting malnutrition and anaemia.

A mother may bring her child to clinic because the child has an acute illness. The child may not have specific complaints that point to malnutrition or anaemia. A sick child can be malnourished, but the health worker or the child's family may not notice the problem.

A child with malnutrition has a higher risk of many types of disease and death. Even children with mild and moderate malnutrition have an increased risk of death. Identifying children with malnutrition and treating them can help prevent many severe diseases and death. Some malnutrition cases can be treated at home. Severe cases need referral to hospital for special feeding, blood transfusion, or specific treatment of a disease contributing to malnutrition (such as tuberculosis).

***Causes of Malnutrition:*** There are several causes of malnutrition. They may vary from country to country.

One type of malnutrition is **protein-energy malnutrition**. Protein-energy malnutrition develops when the child is not getting enough energy or protein from his food to meet his nutritional needs. A child who has had frequent illnesses can also develop protein-energy malnutrition. The child's appetite decreases, and the food that the child eats is not used efficiently. When the child has protein-energy malnutrition:

- \* The child may become severely wasted, a sign of marasmus.
- \* The child may develop oedema, a sign of kwashiorkor.
- \* The child may not grow well and become stunted (too short).

A child whose **diet lacks recommended amounts of essential vitamins and minerals** can develop malnutrition. The child may not be eating enough of the recommended amounts of specific vitamins (such as vitamin A) or minerals (such as iron).

- Not eating foods that contain vitamin A can result in vitamin A deficiency. A child with vitamin A deficiency is at risk of death from measles and diarrhoea. The child is also at risk of blindness.
- Not eating foods rich in iron can lead to iron deficiency and anaemia. **Anaemia**

is a reduced number of red cells or a reduced amount of haemoglobin in each red cell. A child can also develop anaemia as a result of:

- Infections
- Parasites such as hookworm or whipworm. They can cause blood loss from the gut and lead to anaemia.
- Malaria which can destroy red cells rapidly. Children can develop anaemia if they have had repeated episodes of malaria or if the malaria was inadequately treated. The anaemia may develop slowly. Often, anaemia in these children is due to both malnutrition and malaria.

## 7.1 ASSESS FOR MALNUTRITION AND ANAEMIA

Here is the box from the "Assess" column on the *ASSESS & CLASSIFY* chart. It describes how to assess a child for malnutrition and anaemia.

{Module 02 – page 107.jpg}

Assess ALL sick children for malnutrition and anaemia:

### **LOOK for visible severe wasting.**

A child with visible severe wasting has marasmus, a form of severe malnutrition. A child has this sign if he is very thin, has no fat, and looks like skin and bones. Some children are thin but do not have visible severe wasting. This assessment step helps you identify children with visible severe wasting who need urgent treatment and referral to a hospital.

To look for visible severe wasting, remove the child's clothes. Look for severe wasting of the muscles of the shoulders, arms, buttocks and legs. Look to see if the outline of the child's ribs is easily seen. Look at the child's hips. They may look small when you compare them with the chest and abdomen. Look at the child from the side to see if the fat of the buttocks is missing. When wasting is extreme, there are many folds of skin on the buttocks and thigh. It looks as if the child is wearing baggy pants.

The face of a child with visible severe wasting may still look normal. The child's abdomen may be large or distended.

**{Module 02 – page 107a.jpg}**

**LOOK for palmar pallor.**

Pallor is unusual paleness of the skin. It is a sign of anaemia.

To see if the child has palmar pallor, look at the skin of the child's palm. Hold the child's palm open by grasping it gently from the side. Do not stretch the fingers backwards. This may cause pallor by blocking the blood supply.

Compare the colour of the child's palm with your own palm and with the palms of other children. If the skin of the child's palm is pale, the child has some palmar pallor. If the skin of the palm is very pale or so pale that it looks white, the child has severe palmar pallor.

**{Module 02 – page 107b.jpg}**





## EXERCISE N

In this exercise, you will look at photographs in the photograph booklet and practice identifying children with palmar pallor.

**Part 1:** Study the photographs numbered 38 through 40b. Read the explanation below for each photograph.

Photograph 38: This child's skin is normal. There is no palmar pallor.

Photograph 39a: The hands in this photograph are from two different children. The child on the left has some palmar pallor.

Photograph 39b: The child on the right has no palmar pallor.

Photograph 40a: The hands in this photograph are from two different children. The child on the left has no palmar pallor.

Photograph 40b: The child on the right has severe palmar pallor.

**Part 2:** Now look at photographs numbered 41 through 46. For each photograph, tick (✓) whether the child has severe, some or no palmar pallor. Use the answer sheet on the next page.

**Part 2 (continued):**

	Does the child have:		
	Severe pallor?	Some pallor?	No pallor?
Photograph 41			
Photograph 42			
Photograph 43a			
Photograph 43b			
Photograph 44			
Photograph 45			
Photograph 46			

Tell your facilitator when you are ready to discuss  
your answers to this exercise.

## **LOOK and FEEL for oedema of both feet**

A child with oedema of both feet may have kwashiorkor, another form of severe malnutrition.<sup>7</sup> Oedema is when an unusually large amount of fluid gathers in the child's tissues. The tissues become filled with the fluid and look swollen or puffed up.

Look and feel to determine if the child has oedema of both feet. Use your thumb to press gently for a few seconds on the top side of each foot. The child has oedema if a dent remains in the child's foot when you lift your thumb.

{Module 02 – page 111.jpg}

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<sup>7</sup>Other common signs of kwashiorkor include thin, sparse and pale hair which easily falls out; dry, scaly skin especially on the arms and legs; and a puffy or "moon" face.



## EXERCISE O

In this exercise, you will look at photographs in the booklet of still photographs and practice identifying signs of severe wasting and oedema in children with malnutrition.

**Part 1:** Now study photographs 47 through 50.

Photograph 47: This is an example of visible severe wasting. The child has small hips and thin legs relative to the abdomen. Notice that there is still cheek fat on the child's face.

Photograph 48: This is the same child as in photograph 47 showing loss of buttock fat.

Photograph 49: This is the same child as in photograph 47 showing folds of skin ("baggy pants") due to loss of buttock fat. Not all children with visible severe wasting have this sign. It is an extreme sign.

Photograph 50: This child has oedema of both feet.

**Part 2:** Now look at photographs numbered 51 through 58. For each photograph, tick (✓) whether the child has visible severe wasting. Also look at photograph 59 and tick whether the child has oedema of both feet. Use the answer sheet on the next page.

**Part 2 (continued):**

	<b>Does the child have visible severe wasting?</b>	
	<b>YES</b>	<b>NO</b>
Photograph 51		
Photograph 52		
Photograph 53		
Photograph 54		
Photograph 55		
Photograph 56		
Photograph 57		
Photograph 58		
	<b>Does the child have oedema?</b>	
	<b>YES</b>	<b>NO</b>
Photograph 59		

Tell your facilitator when you are ready to discuss  
your answers to this exercise.

## **Determine weight for age.**

Weight for age compares the child's weight with the weight of other children who are the same age.

You will identify children whose weight for age is below the bottom curve of a weight for age chart. These are children who are very low weight for age. Children on or above the bottom curve of the chart can still be malnourished. But children who are below the bottom curve are very low weight and need special attention to how they are fed.

Look now at the WHO weight for age chart on the next page.

To determine weight for age:

1. Calculate the child's age in months.
2. Weigh the child if he has not already been weighed today. Use a scale which you know gives accurate weights. The child should wear light clothing when he is weighed. Ask the mother to help remove any coat, sweater, or shoes.
3. Use the weight for age chart to determine weight for age.
  - Look at the left-hand axis to locate the line that shows the child's weight.
  - Look at the bottom axis of the chart to locate the line that shows the child's age in months.
  - Find the point on the chart where the line for the child's weight meets the line for the child's age.
4. Decide if the point is above, on, or below the bottom curve.
  - If the point is below the bottom curve, the child is very low weight for age.
  - If the point is above or on the bottom curve, the child is not very low weight for age.

**EXAMPLE:** A child is 27 months old and weighs 8.0 kilograms. Here is how the health worker determined the child's weight for age.

{Module 02 – page 115.jpg}

## 7.2 CLASSIFY NUTRITIONAL STATUS

There are three classifications for a child's nutritional status. They are:

- SEVERE MALNUTRITION OR SEVERE ANAEMIA
- ANAEMIA OR VERY LOW WEIGHT
- NO ANAEMIA AND NOT VERY LOW WEIGHT

{Module 02 – page 116.jpg}

### SEVERE MALNUTRITION OR SEVERE ANAEMIA

If the child has visible severe wasting, severe palmar pallor or oedema of both feet, classify the child as having SEVERE MALNUTRITION OR SEVERE ANAEMIA.<sup>8</sup>

#### *Treatment*

Children classified as having SEVERE MALNUTRITION OR SEVERE ANAEMIA are at risk of death from pneumonia, diarrhoea, measles, and other severe diseases. These children need urgent referral to hospital where their treatment can be carefully monitored. They may need special feeding, antibiotics or blood transfusions. Before the child leaves for hospital, give the child a dose of vitamin A.

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<sup>8</sup>Children with oedema of both feet may have other diseases such as nephrotic syndrome. It is not necessary to distinguish these other conditions from kwashiorkor since they also require referral.



## **ANAEMIA OR VERY LOW WEIGHT**

If the child is very low weight for age or has some palmar pallor, classify the child as having ANAEMIA OR VERY LOW WEIGHT.<sup>9</sup>

### ***Treatment***

A child classified as having ANAEMIA OR VERY LOW WEIGHT has a higher risk of severe disease. Assess the child's feeding and counsel the mother about feeding her child according to the recommendations in the FOOD box on the *COUNSEL THE MOTHER* chart.

A child with some palmar pallor may have anaemia. Treat the child with iron. When there is a high risk of malaria, give an antimalarial to a child with signs of anaemia. The anaemia may be due to malaria.

Hookworm and whipworm infections contribute to anaemia because the loss of blood from the gut results in iron deficiency. Give the child mebendazole only if there is hookworm or whipworm in the area. Only give mebendazole if the child with anaemia is 2 years of age or older and has not had a dose of mebendazole in the last 6 months.

Advise the mother of a child with some palmar pallor to return for follow-up in 14 days. A child who is very low weight should return for follow-up in 1 month.

## **NO ANAEMIA AND NOT VERY LOW WEIGHT**

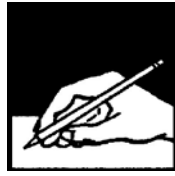
If the child is not very low weight for age and there are no other signs of malnutrition, classify the child as having NO ANAEMIA AND NOT VERY LOW WEIGHT.

### ***Treatment***

If the child is less than 2 years of age, assess the child's feeding. Counsel the mother about feeding her child according to the recommendations in the FOOD box on the *COUNSEL THE MOTHER* chart. Children less than 2 years of age have a higher risk of feeding problems and malnutrition than older children.

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<sup>9</sup>When you record this classification, you can just write ANAEMIA if the child has palmar pallor or VERY LOW WEIGHT if the child is very low weight for age.



## EXERCISE P

Read the following case studies. Record the child's signs and their classifications on the Recording Form. Refer to the classification tables on the chart.

### Case 1: Nadia

Nadia is 18 months old. She weighs 7 kg. Her temperature is 38.5°C. Her mother brought her today because the child has felt hot and has a rash. The health worker saw that Nadia looks like skin and bones.

The health worker checked for general danger signs. Nadia is able to drink, has not vomited, has not had convulsions, and is not lethargic or unconscious.

She does not have cough or difficult breathing. She does not have diarrhoea.

Because Nadia's mother said the child felt hot, and because her temperature is 38.5°C, the health worker assessed her for fever. Nadia lives where there is a high malaria risk. She has had fever for 5 days. Her rash is generalized rash, and she has red eyes. She has measles. She does not have a stiff neck. She does not have a runny nose.

The health worker assessed her for signs of measles complications. Nadia does not have mouth ulcers. There is no pus draining from the eye and no clouding of the cornea.

Nadia does not have an ear problem.

The health worker next checked her for malnutrition or anaemia. Nadia has visible severe wasting. There is no palmar pallor. She does not have oedema of both feet. The health worker determined her weight for age. (Look at the weight for age chart in your chart booklet. Determine if this child's weight for age is very low and record this on the Recording Form.)

Record Nadia's signs and classify them on the Recording Form on the next page.

**{Module 02 – page 118.jpg}**

**Case 2: Kalisa**

Kalisa is 11 months old. He weighs 8 kg. His temperature is 37°C. His mother says he has had a dry cough for the last 3 weeks.

Kalisa does not have any general danger signs. The health worker assessed his cough. It has been present for 21 days. He counted 41 breaths per minute. The health worker does not see chest indrawing. There is no stridor when the child is calm.

Kalisa does not have diarrhoea. He has not had a fever during this illness. He does not have an ear problem.

The health worker checked Kalisa for malnutrition and anaemia. Kalisa does not have visible severe wasting. His palms are very pale and appear almost white. There is no oedema of both feet. The health worker determined Kalisa's weight for age. (Look at the weight for age chart in your chart booklet and determine Kalisa's weight for age.)

Record Kalisa's signs and their classifications on the Recording Form.

**{Module 02 – page 121.jpg}**

### **Case 3: Alulu**

Alulu is 9 months old. He weighs 5 kg. His temperature is 36.8°C. He is at the clinic today because his mother and father are concerned about his diarrhoea.

He does not have any general danger signs. He does not have cough or difficult breathing.

He has had diarrhoea for 5 days, the father said. They have not seen any blood in the stool. Alulu is not restless or irritable. He is not lethargic or unconscious. His eyes are not sunken. He is thirsty and eager to take the drink of water offered to him. His skin pinch goes back slowly.

He does not have a fever. He does not have an ear problem.

Next, the health worker checked for signs of malnutrition and anaemia. The child does not have visible severe wasting. There is no palmar pallor. He does not have oedema of both feet. The health worker determined Alulu's weight for age.

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

**{Module 02 – page 123.jpg}**

#### **Case 4: Antonio**

Antonio is 37 months old. He weighs 9.5 kg. His temperature is 37.5°C. His mother says he feels hot. He has been crying and rubbing his ear.

The health worker checks Antonio for general danger signs. He is able to drink, does not vomit everything he drinks, has not had convulsions and is not lethargic or unconscious. He does not have cough or diarrhoea.

Because his mother has reported a history of fever and because his temperature is 37.5°C, the health worker assesses Antonio for fever. The risk for malaria is high. He has had fever for 3 days, says his mother. He has not had measles in the last 3 months. His neck moves easily. He has a runny nose, and there are no signs suggesting measles.

The health worker asks if Antonio has an ear problem. The mother says he has had ear pain. She also says she has seen ear discharge for about 5 days. The health worker sees pus draining from the ear. He does not feel any tender swelling behind either ear.

He then checks the child for malnutrition and anaemia. Antonio looks thin, but he does not have visible severe wasting. He does not have palmar pallor. He does not have oedema of both feet. The health worker determined his weight for age.

Record Antonio's signs and their classification on the Recording Form on the next page.



**{Module 02 – page 125.jpg}**

## 8.0 CHECK THE CHILD'S IMMUNIZATION STATUS

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

### *USE A RECOMMENDED IMMUNIZATION SCHEDULE*

Use your country's recommended immunization schedule when you check the child's immunization status. Look at the *ASSESS & CLASSIFY* chart and locate the recommended immunization schedule. Refer to it as you read how to check a child's immunization status.

{Module 02 – page 126.jpg}

Give the recommended vaccine<sup>10</sup> when the child is the appropriate age for each dose. If the child receives an immunization when the child is too young, the child's body will not be able to fight the disease very well. Also, if the child does not receive an immunization as soon as he is old enough, his risk of getting the disease increases.

All children should receive all the recommended immunizations before their first birthday. If the child does not come for an immunization at the recommended age, give the necessary immunizations any time after the child reaches that age. Give the remaining doses at least 4 weeks apart. You do not need to repeat the whole schedule.

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<sup>10</sup>In exceptional situations where measles morbidity and mortality before nine months of age represent a significant problem (more than 15% of cases and deaths), an extra dose of measles vaccine is given at 6 months of age. This is in addition to the scheduled dose given as soon as possible after 9 months of age. This schedule is also recommended for groups at high risk of measles death, such as infants in refugee camps, infants admitted to hospitals, infants affected by disasters and during outbreaks.

## ***OBSERVE CONTRAINDICATIONS TO IMMUNIZATION***

In the past some health workers thought minor illness was a contraindication to immunization (a reason to not immunize the child). They sent sick children away and told the mothers to bring them back when the children are well. This is a bad practice because it delays immunization. The mother may have travelled a long distance to bring her sick child to the clinic and cannot easily bring the child back for immunization at another time. The child is left at risk of getting measles, polio, diphtheria, pertussis, tetanus or tuberculosis. It is very important to immunize sick and malnourished children against these diseases.

There are only *three* situations at present which are contraindications to immunization:

- \* Do not give BCG to a child known to have AIDS.
- \* Do not give DPT 2 or DPT 3 to a child who has had convulsions or shock within 3 days of the most recent dose.
- \* Do not give DPT to a child with recurrent convulsions or another active neurological disease of the central nervous system.

In all other situations, here is a good rule to follow:

*There are no contraindications to immunization of a sick child if the child is well enough to go home.*

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

Children with diarrhoea who are due for OPV should receive a dose of OPV (oral polio vaccine) during this visit. However, do not count the dose. The child should return in 4 weeks for an extra dose of OPV.

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 child needs an immunization today:

### **LOOK at the child's age on the clinical record.**

If you do not already know the child's age, ask about the child's age.

**ASK the mother if the child 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 child's immunization record with the recommended immunization schedule. Decide whether the child has had all the immunizations recommended for the child's age.
- \* On the Recording Form, check all immunizations the child has already received. Write the date of the immunization the child received most recently. Circle any immunizations the child needs today.
- \* If the child 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 child has received.
- \* Use your judgement to decide if the mother has given a reliable report. If you have any doubt, immunize the child. Give the child OPV, DPT and measles vaccine according to the child's age.
- \* Give an immunization card to the mother and ask her to please bring it with her each time she brings the child to the clinic.

**{Module 02 – page 128.jpg}**



## EXERCISE Q

**Part 1:** Review the information in section 8.0 about contraindications to immunizations. Then decide if a contraindication is present for each of the following children:

<b>If the child:</b>	<b>Immunize this child today if due for immunization</b>	<b>Do not immunize today</b>
will be treated at home with antibiotics		
has a local skin infection		
had convulsion immediately after DPT 1 and needs DPT 2 and OPV 2 today		
has a chronic heart problem		
is being referred for severe classification		
is exclusively breastfed		
older brother had convulsion last year		
was jaundiced at birth		
is VERY LOW WEIGHT		
is known to have AIDS and has not received any immunizations at all		
has NO PNEUMONIA: COUGH OR COLD		

**Part 2:** Read about the following children. For each one, decide if the child needs any immunizations today.

- 1. Salim, 6 months old.** No general danger signs. Classified as NO PNEUMONIA: COUGH OR COLD and NO ANAEMIA AND NOT VERY LOW WEIGHT FOR AGE.

Immunization history: BCG, OPV 0, OPV 1, OPV 2, DPT 1 and DPT 2. OPV 2 and DPT 2 given 6 weeks ago.

- a. Is Salim up-to-date with his immunizations?
- b. What immunizations, if any, does Salim need today?
- c. When should he return for his next immunization?

- 2. Chilunji, 3 months old.** No general danger signs. Classified as diarrhoea with NO DEHYDRATION and also ANAEMIA.

Immunization history: BCG, OPV 0, OPV 1, and DPT 1. OPV 1 and DPT 1 given 5 weeks ago.

- a. Is Chilunji up-to-date with her immunizations?
- b. What immunizations, if any, does Chilunji need today?
- c. Chilunji has diarrhoea. What immunizations will she receive at her next visit?
- d. When should she return for her next immunization?

3. **Marco, 9 months old.** No general danger signs. Classified as PNEUMONIA, MALARIA, NO ANAEMIA AND NOT VERY LOW WEIGHT.

Immunization history: BCG, OPV 0, OPV 1 and DPT 1. When Marco was 7 months old, he received OPV 2 and DPT 2.

- a. Is Marco up-to-date with his immunizations?
- b. What immunizations, if any, does Marco need today?
- c. When should he return for his next immunizations?

Tell your facilitator when you have completed this exercise.

Your facilitator will lead a drill to give you practice using a weight-for-age chart.

## 9.0 ASSESS OTHER PROBLEMS

The last box on the ASSESS side of the chart reminds you to assess any other problems that the child may have.

Since the *ASSESS & CLASSIFY* chart does not address all of a sick child's problems, you will now assess other problems the mother told you about. For example, she may have said the child has a skin infection, itching or swollen neck glands. Or you may have observed another problem during the assessment. Identify and treat any other problems according to your training, experience and clinic policy. Refer the child for any other problem you cannot manage in clinic.

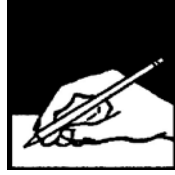
\* \* \* \* \*

The last box on the "Classify" side of the chart has an important warning. It says:

{Module 02 – page 132.jpg}

This note reminds you that a child with any general danger sign needs urgent treatment and referral. It is possible, though uncommon, that a child may have a general danger sign, but may not have a severe classification for any of the main symptoms. How to decide and plan for referral of a child with a general danger sign and without any other severe classification is taught in the module *Identify Treatment*.





## **EXERCISE R**

Read the case studies and practice using the entire process as described on the *ASSESS & CLASSIFY* chart. Record the child's signs and classify them on the Recording Form for each exercise. Refer to the chart as you do the exercise.

The first case begins on the next page.

### **Case 1: Dan**

Dan is 9 months old. He weighs 9.5 kg. His temperature is 39.5°C. His mother says he has had diarrhoea for 1 week.

Dan does not have any general danger signs. He does not have cough or difficult breathing.

The health worker assessed Dan for signs of diarrhoea. The mother said earlier that Dan has had diarrhoea for 1 week. Dan does not have blood in the stool. He is not restless or irritable; he is not lethargic or unconscious. He has sunken eyes. He is thirsty and drinks eagerly when offered a drink. His skin pinch goes back slowly.

Next, the health worker assessed for additional signs related to fever. Dan's mother says he has felt hot for about 2 days. The risk of malaria is high. He has not had measles in the last 3 months. He does not have a stiff neck, and he does not have a runny nose. He did not have signs suggesting measles.

There is no ear problem.

The health worker checked for signs of malnutrition and anaemia. Dan does not have visible severe wasting. There are no signs of palmar pallor. He does not have oedema of both feet. The health worker determined his weight for age.

Dan has had BCG, DPT 1, DPT 2, and DPT 3. He has also had OPV 0, OPV 1, OPV 2 and OPV 3.

Record Dan's signs and their classifications on the Recording Form on the next page.

**{Module 02 – page 135.jpg}**

## Case 2: Mishu

Mishu is 4 months old. She weighs 5.5 kg. Her temperature is 38.0°C. She is in the clinic today because she has diarrhoea.

{Module 02 – page 136.jpg}

She does not have any general danger signs. She is not coughing and does not have difficult breathing.

The health worker assessed her further for signs of diarrhoea. She has had diarrhoea for 2 days and there is blood in the stool, said the mother. Mishu was not restless or irritable; she was not unconscious or lethargic. Her eyes were not sunken. She drank normally, and did not seem to be thirsty. Her skin pinch went back immediately.

The health worker next assessed her for fever. The malaria risk is high at this time of year. Mishu has had fever for 2 days, said the mother. She has not had measles in the last 3 months. She does not have a stiff neck or runny nose. There are no signs suggesting measles.

Mishu does not have an ear problem. The health worker checked for malnutrition and anaemia. She does not have visible severe wasting. There is no palmar pallor and no oedema of both feet. The health worker determined her weight for age.

At birth Mishu received BCG and OPV 0. Four weeks ago, she received DPT 1 and OPV 1.

Record Mishu's signs and their classifications on the Recording Form on the next page.

**{Module 02 – page 137.jpg}**

### **Case 3: Jemilla**

Jemilla is 37 months old. She weighs 15.3 kg. Her temperature is 38.5°C. Jemilla's family brought her to the clinic today because she has a stomach ache, feels hot, has a runny nose and rash, and is coughing.

**{Module 02 – page 138.jpg}**

The health worker checked her for general danger signs. She was able to drink, did not vomit everything she drank, did not have convulsions, and was not lethargic or unconscious.

The health worker assessed the child for cough or difficult breathing. The parents said she has been coughing for 2 days. The health worker counted 55 breaths a minute. He did not see chest indrawing. He did not hear any unusual noise when she breathed in.

Jemilla does not have diarrhoea, said the parents. However, she has been feeling hot, they said. Her risk of malaria is high. She has had fever for two days. She has not had measles in the last 3 months. Her neck moves easily. She has a runny nose. The health worker looked for signs suggesting measles. Her rash was not generalized; it was only on her hand.

Jemilla did not have an ear problem, said the parents.

The health worker checked Jemilla for malnutrition and anaemia. She does not have visible severe wasting. She does not have palmar pallor. She does not have oedema of both feet. The health worker determined her weight for age.

Jemilla has received BCG, OPV 0, OPV 1, OPV 2, OPV 3, DPT 1, DPT 2, and DPT 3.

**{Module 02 – page 139.jpg}**

#### **Case 4: Terese**

Terese is 6 months old. She weighs 4 kg. Her temperature is 37°C. Her mother brought her to the clinic because Terese has a cough. Her mother is also concerned that Terese looks thin.

The health worker did not find any general danger signs.

The health worker assessed her cough. The mother said Terese had the cough for 4 days. The health worker counted 52 breaths per minute. Terese did not have chest indrawing, and there was no stridor when the child was calm.

Terese did not have diarrhoea, and she did not have fever. There was no ear problem, said the mother.

The health worker saw that Terese had visible severe wasting. She did not have palmar pallor. She did not have oedema of both feet. The health worker determined the child's weight for age.

She has had BCG, OPV 0, OPV 1 and DPT 1.



**{Module 02 – page 141.jpg}**



## **EXERCISE S**

In this video exercise, you will see a demonstration of how to assess a child with an ear problem and how to look for signs of malnutrition and anaemia. You will see a case study. Record the child's signs and classifications on the Recording Form on the next page.

**{Module 02 – page 143.jpg}**



## **EXERCISE T**

In this video exercise, you will watch two case studies. Record the child's signs and classifications on the Recording Form on the next two pages.

EXERCISE T, Video Summary Case Study 1

**{Module 02 – page 145.jpg}**

EXERCISE T, Video Summary Case Study 2

**{Module 02 – page 146.jpg}**

At the end of this video exercise, there will be a group discussion.

# **ANNEX**

**BLANK Recording Form**

**FOR**

**ASSESS AND CLASSIFY THE SICK CHILD  
AGE 2 MONTHS UP TO 5 YEARS**





**{Module 02 – page 149.jpg}**

**{Module 02 – page 150.jpg}**