



IMCI

INTEGRATED MANAGEMENT
OF CHILDHOOD ILLNESS

DISTANCE LEARNING COURSE

Module 4

Diarrhoea



World Health
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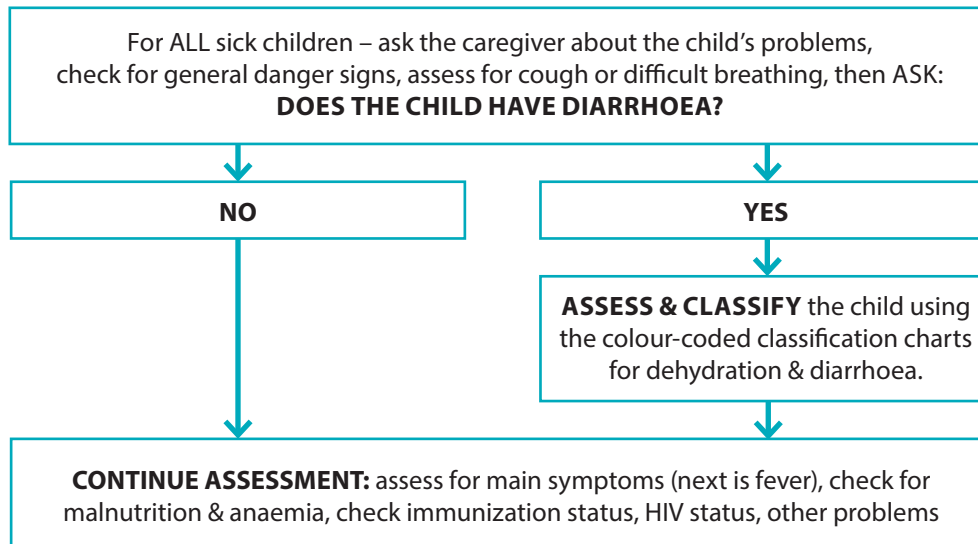
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4.1 MODULE OVERVIEW

Diarrhoea is likely a very common problem in the children you see at your clinic.

Diarrhoea can be serious – and even lead to death.



NOTE ON DIARRHOEA IN SICK YOUNG INFANT: In Module 2, you were told to refer to this module to assess and classify diarrhoea in sick young infants. The IMCI process is similar for the two. There are some important distinctions, which you will learn about in the module.

MODULE LEARNING OBJECTIVES

After you study this module, you will be able to:

- ✓ Define the types of diarrhoea and levels of dehydration
- ✓ Recognize clinical signs of dehydration
- ✓ Assess diarrhoea in sick children
- ✓ Assess dehydration in young infants and sick children
- ✓ Classify diarrhoea and severity of dehydration using IMCI charts
- ✓ Provide Plans A, B, and C for dehydration
- ✓ Counsel the caregiver about home treatment for diarrhoea and dehydration

YOUR RECORDING FORM

Look at your IMCI recording form for the sick child. This section deals with this module:

<p>DOES THE CHILD HAVE DIARRHOEA?</p> <ul style="list-style-type: none"> • For how long? ___ Days • Is there blood in the stool? 	<ul style="list-style-type: none"> • Look at the child's general condition. Is the child: <ul style="list-style-type: none"> ◦ Lethargic or unconscious? ◦ Restless and irritable? • Look for sunken eyes. • Offer the child fluid. Is the child: <ul style="list-style-type: none"> ◦ Not able to drink or drinking poorly? ◦ Drinking eagerly, thirsty? • Pinch the skin of the abdomen. Does it go back: <ul style="list-style-type: none"> ◦ Very slowly (longer than 2 seconds)? ◦ Slowly? 	<p>Yes __ No __</p>
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MODULE ORGANIZATION

This module follows the major steps of the IMCI process:

- ✓ ASSESS DIARRHOEA and DEHYDRATION IN SICK CHILD
- ✓ ASSESS DEHYDRATION IN SICK YOUNG INFANT
- ✓ CLASSIFY DIARRHOEA and DEHYDRATION
- ✓ CLASSIFY DEHYDRATION IN SICK YOUNG INFANT
- ✓ TREAT DIARRHOEA
- ✓ COUNSEL CAREGIVER ON 4 RULES OF HOME TREATMENT
- ✓ FOLLOW-UP CARE FOR DIARRHOEA

BEFORE YOU BEGIN

What do you know now about managing diarrhoea?

Before you begin studying this module, quickly practice your knowledge with these multiple-choice questions.

Circle the best answer for each question.

1. How can diarrhoea kill children?
 - a. Children lose valuable fluids, salts, and sugars, which can cause shock to vital organs
 - b. Children lose valuable nutrients because they cannot eat
 - c. Diarrhoea causes liver failure
2. What are critical treatments for children with diarrhoea and dehydration?
 - a. Oral antibiotics
 - b. Oral rehydration therapy and zinc
 - c. Paracetamol for discomfort

3. What is persistent diarrhoea?
 - a. When a child frequently has diarrhoea over a period of 1 month, and is ill as a result
 - b. When a child has several episodes of diarrhoea a day
 - c. When a child has an episode of diarrhoea lasting 14 days or more, which is particularly dangerous for dehydration and malnutrition
4. Critical messages for caregivers about diarrhoea and dehydration include:
 - a. The child must receive increased fluids, ORS, zinc, and regular feeding
 - b. The child requires ORS, but should receive less food in order to reduce the diarrhoea
 - c. The child should immediately receive antibiotics to stop the diarrhoea
5. Nidhi arrives at your clinic and is very lethargic. Her eyes are very sunken. She has diarrhoea. You observe a significant loss of skin elasticity. How will you manage Nidhi?
 - a. Nidhi requires ORS immediately, as she is dehydrated.
 - b. These are common signs of diarrhoea, as the child's body is exhausted.
 - c. Nidhi is severely dehydrated. She requires urgent rehydration therapy by IV or nasogastric tube.

After you finish the module, you will answer the same questions. This will demonstrate to you what you have learned during the course of the module!

4.2 INTRODUCTION TO DIARRHOEA

■ OPENING CASE STUDY – MARY

It is a busy afternoon in your clinic. A young mother comes into your clinic room, carrying a small girl. She says her daughter, Mary, has diarrhoea. You ask the mother's name, and she says Ana. Ana says that Mary usually eats porridge and milk, but that she has had bad diarrhoea in the past few days. Ana tried giving more porridge but Mary is still sick. Ana thought it was a bad stomach from spoiled milk, and that it would pass.

However, the diarrhoea has remained for several days now, and now Mary looks unwell. Ana fears that Mary is getting worse, and is feeling guilty that she did not come to the clinic sooner. Ana works in the mornings, and lives some distance from the clinic. By the time she commutes into the city for her work duties, she does not have very much time in the day to bring Mary in. She says she is worried that her family will blame her for working at the job and letting Mary get more and more sick.

WHAT IS DIARRHOEA?

Diarrhoea occurs when stools contain more water than normal, and are loose or watery. In many regions diarrhoea is defined as three or more loose or watery stools in a 24-hour period. Children between the ages of 6 months and 2 years often have diarrhoea. It is more common in settings of poor sanitation and hygiene, including a lack of safe drinking water.

WHAT ARE THE TYPES OF DIARRHOEA IN CHILDREN?

Most diarrhoea that causes dehydration is **loose or watery**. Cholera is one example, though only a small proportion of all loose or watery diarrhoeas are due to cholera.

- **ACUTE DIARRHOEA** is an episode of diarrhoea that lasts less than 14 days. Acute watery diarrhoea causes dehydration and contributes to malnutrition. The death of a child with acute diarrhoea is usually due to dehydration.
- **PERSISTENT DIARRHOEA** lasts 14 days or more. Up to 20% of episodes of diarrhoea become persistent, and this often causes nutritional problems and contributes to death in children.
- **DYSENTERY** is diarrhoea with blood in the stool, with or without mucus. 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.

WHAT ARE THE TYPES OF DIARRHOEA IN YOUNG INFANTS?

A young infant has diarrhoea if the stools have changed from the usual pattern, and are **many** and **watery**. This means more water than faecal matter. The normally frequent or semi-solid stools of a breastfed baby are not diarrhoea.

■ **How do you greet Ana and begin the assessment?**

You praise Ana for bringing in her daughter. You tell her that diarrhoea can be a serious problem for young children, but that there are ways to help her daughter get better. You explain that you will check her condition and decide the best treatment. Ana seems relieved.

You ask Mary’s age. Ana tells you that she is 9 months old. You ask Ana if there are other problems besides the diarrhoea. She says no. This is their first time coming to the clinic for this diarrhoea. You take Mary’s weight, 8.2 kg, and temperature, 37 degrees Celsius.

■ **You will check Mary for general danger signs.**

First, you check Mary for general danger signs. Ana tells you that Mary is able to drink milk and take porridge. She does not vomit. She has not had convulsions. You watch Mary. She looks very tired in Ana’s arms, but she watches you as you speak. When you reach out to her to take her hand, she grabs your finger. **Does Mary have any general danger signs?**

■ **Next, you will assess Mary for cough or difficult breathing.**

Now you check Mary for cough or difficult breathing. You ask Ana if Mary has had a cough, or any fast or noisy breathing. Ana says that Mary had a cough about 2 months ago, but it has cleared up.

This is how you will complete Mary’s recording form thus far:

MANAGEMENT OF THE SICK CHILD AGED 2 MONTHS UP TO 5 YEARS		
Name: <i>Mary</i>	Age: <i>9 mo</i>	Weight (kg): <i>8.2 kg</i>
Temperature (°C): <i>37 °C</i>	Initial Visit? <input checked="" type="checkbox"/>	Follow-up Visit?
Ask: What are the child's problems? <i>Diarrhoea for several days</i>		
ASSESS (Circle all signs present)		
CHECK FOR GENERAL DANGER SIGNS <ul style="list-style-type: none"> • NOT ABLE TO DRINK OR BREASTFEED • VOMITS EVERYTHING • CONVULSIONS • LETHARGIC OR UNCONSCIOUS • CONVULSING NOW 		General danger sign present? Yes ___ No <input checked="" type="checkbox"/> Remember to use Danger sign when selecting classifications
DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING? <ul style="list-style-type: none"> • For how long? ___ Days • Count the breaths in one minute ___ breaths per minute. Fast breathing? • Look for chest indrawing • Look and listen for stridor • Look and listen for wheezing 		Yes <input checked="" type="checkbox"/> No ___

Now you will assess Mary for the next main symptom, diarrhoea. This is also the problem that her mother brought her to the clinic for.

4.3 ASSESS A SICK YOUNG INFANT & CHILD FOR DIARRHOEA

You have a very important job to do in helping a child with diarrhoea. This module will guide you through the process of assessing, classifying, and treating by the type of diarrhoea and the severity of dehydration.

HOW WILL YOU ASSESS?

First, you will **ASK** all caregivers if the child has diarrhoea. You might need to explain diarrhoea as loose, watery stools if the caregiver needs clarification. Be sure to use words for diarrhoea that the mother understands.

NO diarrhoea, ask about the next main symptom, fever. You do not need to further assess.

YES or reported earlier that diarrhoea was the reason for coming to the clinic, record her answer. You will then assess in two parts:

1. **Type of diarrhoea**: especially if it is persistent, or dysentery
2. **Signs of dehydration**

Open to your **ASSESS** chart for diarrhoea, which includes the assessment for both diarrhoea and dehydration. It contains the following instructions, which you will now learn about.

If yes, ask:

- For how long?
- Is there blood in the stool?

Look and feel:

- Look at the child's general condition. Is the child:
 - ⦿ Lethargic or unconscious?
 - ⦿ Restless and irritable?
- Look for sunken eyes.
- Offer the child fluid. Is the child:
 - ⦿ Not able to drink or drinking poorly?
 - ⦿ Drinking eagerly, thirsty?
- Pinch the skin of the abdomen. Does it go back:
 - ⦿ Very slowly (longer than 2 seconds)?
 - ⦿ Slowly?

The ASSESS chart for the sick young infant is slightly different. There is some additional detail to examine about the infant's movements. It also does not test how well the child drinks. Review the ASSESS chart for the sick young infant as well.

DIARRHOEA: SICK CHILD

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. As we previously reviewed, dysentery is diarrhoea with blood in the stool, with or without mucus. The most common cause of dysentery is *Shigella* bacteria. Dysentery will require specific treatments.

DEHYDRATION: SICK CHILD & YOUNG INFANT

WHAT IS DEHYDRATION?

Diarrhoea can be a serious problem – and even lead to death – if child becomes dehydrated. Dehydration is when the child loses too much water and salt from the body. This causes a disturbance of electrolytes, which can affect vital organs.

A child who is dehydrated must be treated to help restore the balance of water and salt. Many cases of diarrhoea can be treated with Oral Rehydration Salts (ORS), a mixture of glucose and several salts. ORS and extra fluids can be used as home treatment to prevent dehydration. **Low osmolarity ORS should be used to treat dehydration.**

HOW WILL YOU ASSESS DEHYDRATION?

There are several signs that help you decide the severity of dehydration. When a child becomes dehydrated, he is at first restless or irritable. As the body loses fluids, the eyes may look sunken, and skin loses elasticity. If dehydration continues, the child becomes lethargic or unconscious.

LOOK: AT THE CHILD'S GENERAL CONDITION

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.

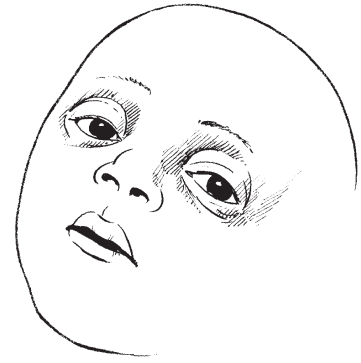
A child is classified as **restless and irritable** if s/he is restless and irritable all the time or every time s/he is touched and handled. If an infant or child is calm when breastfeeding but again restless and irritable when he stops breastfeeding, s/he has the sign restless and irritable. Many children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

FOR THE YOUNG INFANT: watch the infant's movement. Does he move on his own? Does the infant only move when stimulated, but then stops? Is the infant 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 can help you confirm.

NOTE: In a severely malnourished child (see Module 6) who is wasted, the eyes may always look sunken, even if the child is not dehydrated. Still use the sign to classify dehydration.



DVD EXERCISE – SUNKEN EYES

Watch "Assess sunken eyes" (disc 1). It is very useful to practice with a video. Record your answers as you watch, and the video will review them. Do these children have sunken eyes?

CHILD 1 YES NO **CHILD 3** YES NO **CHILD 5** YES NO
CHILD 2 YES NO **CHILD 4** YES NO **CHILD 6** YES NO

LOOK: TO SEE HOW THE CHILD DRINKS

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 and acts 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.

FEEL: BY PINCHING THE SKIN OF THE ABDOMEN

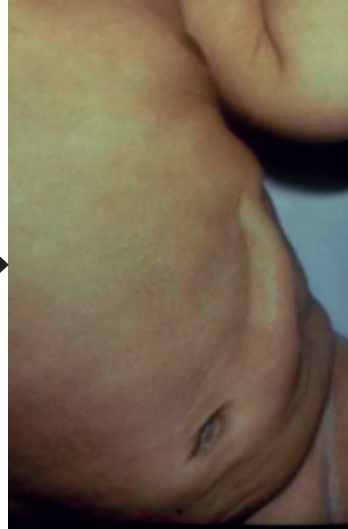
This skin pinch tests is an important tool for testing dehydration. When a child is dehydrated, the skin loses elasticity. To assess dehydration using the skin pinch:

1. **ASK** the mother to place the child on the examining table so that the child is flat on his back with his arms at his sides (not over his head) and his legs straight. Or, ask the mother to hold the child so he is lying flat on her lap.
2. **USE YOUR THUMB AND FIRST FINGER** to locate the area on the child's abdomen halfway between the umbilicus and the side of the abdomen. Do not use your fingertips because this will cause pain. The fold of the skin should be in a line up and down the child's body.
3. **PICK UP** all the layers of skin and the tissue underneath them.
4. **HOLD** the pinch for one second. Then release it.

5. **LOOK** to see if the skin pinch goes back **very slowly** (more than 2 seconds), **slowly**, (less than 2 seconds, but not immediately), or **immediately**. If the skin stays up for even a brief time after you release it, decide that the skin pinch goes back slowly. The photographs below show you how to do the skin pinch test and what the skin looks like when the pinch does not go back immediately.



Skin pinch



Skin pinch going back very slowly

NOTE: The skin pinch test is not always an accurate sign. In a child with severe malnutrition, the skin may go back slowly even if the child is not dehydrated. In a child who is overweight or has oedema, the skin may go back immediately even if the child is dehydrated. However you should still use it to classify the child's dehydration.



DVD EXERCISE – SKIN PINCH

Watch “Assess skin pinch” (disc 1) to see how skin pinches look. How do you assess the 5 children in the video? Record your answers, and the video will review answers with you.

	1	2	3	4	5
VERY SLOWLY					
SLOWLY					
IMMEDIATELY					



Watch “Demonstration: assess and classify diarrhoea” (disc 1)

This video reviews all steps in assessing diarrhoea. It is useful to see in a clinical setting.

How will you assess Mary’s diarrhoea?

Ana has already reported that Mary has diarrhoea. You ask Ana how many days she has had diarrhoea, and she tells you 3 days. You ask Ana if there is blood in her daughter’s stool, and she tells you no.

Now you will examine Mary’s condition. She seems restless and irritable, especially when you touch her. You begin to examine Mary for signs of dehydration. You check to see if she has sunken eyes, and it appears that she does. Ana agrees that her daughter’s eyes look unusual. You offer her some water to drink and notice how she responds. She drinks the water eagerly.

Next, you give Mary a pinch test to determine how dehydrated she is. You ask Ana to place Mary on the examining table so that she is flat on her back with her arms at her sides, and her legs straight. You do pinch the skin of Mary’s abdomen, and it goes back in 1 second.

How will you record these signs on Mary’s recording form?

<p>DOES THE CHILD HAVE DIARRHOEA?</p> <ul style="list-style-type: none"> • For how long? <u>3</u> Days • Is there blood in the stool? 	<ul style="list-style-type: none"> • Look at the child’s general condition. Is the child: <ul style="list-style-type: none"> ◦ Lethargic or unconscious? ◦ <u>Restless and irritable?</u> • Look for sunken eyes. • Offer the child fluid. Is the child: <ul style="list-style-type: none"> ◦ <u>Not able to drink or drinking poorly?</u> ◦ <u>Drinking eagerly, thirsty?</u> • Pinch the skin of the abdomen. Does it go back: <ul style="list-style-type: none"> ◦ <u>Very slowly</u> (longer than 2 seconds)? ◦ <u>Slowly?</u> 	Yes <u>X</u> No __
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Then in the next section, you will learn how to assess Mary’s diarrhoea using the signs you have assessed.

On the next page you will have the opportunity to practice assessing signs in two case studies.



SELF-ASSESSMENT EXERCISE A

Read the case study below. Assess and classify the child’s diarrhoea and dehydration.

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 and classify them.**

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

Name: _____ Age: _____ Weight (kg): _____ Temperature (°C): _____
 Ask: What are the child’s problems? _____ Initial Visit? _____ Follow-up Visit? _____
ASSESS (Circle all signs present) **CLASSIFY**

<p>CHECK FOR GENERAL DANGER SIGNS</p> <ul style="list-style-type: none"> • NOT ABLE TO DRINK OR BREASTFEED • VOMITS EVERYTHING • CONVULSIONS 	<ul style="list-style-type: none"> • LETHARGIC OR UNCONSCIOUS • CONVULSING NOW 	<p>General danger sign present? Yes ___ No ___ Remember to use Danger sign when selecting classifications</p>
<p>DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING?</p> <ul style="list-style-type: none"> • For how long? ___ Days 	<ul style="list-style-type: none"> • Count the breaths in one minute ___ breaths per minute. Fast breathing? • Look for chest indrawing • Look and listen for stridor • Look and listen for wheezing 	<p>Yes ___ No ___</p>
<p>DOES THE CHILD HAVE DIARRHOEA?</p> <ul style="list-style-type: none"> • For how long? ___ Days • Is there blood in the stool? 	<ul style="list-style-type: none"> • Look at the child’s general condition. Is the child: <ul style="list-style-type: none"> ◦ Lethargic or unconscious? ◦ Restless and irritable? • Look for sunken eyes. • Offer the child fluid. Is the child: <ul style="list-style-type: none"> ◦ Not able to drink or drinking poorly? ◦ Drinking eagerly, thirsty? • Pinch the skin of the abdomen. Does it go back: <ul style="list-style-type: none"> ◦ Very slowly (longer than 2 seconds)? ◦ Slowly? 	<p>Yes ___ No ___</p>



SELF-ASSESSMENT EXERCISE B

Read the case study below. Assess and classify the child’s diarrhoea and dehydration.

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. 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.**

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

Name: _____ Age: _____ Weight (kg): _____ Temperature (°C): _____
 Ask: What are the child's problems? Initial Visit? Follow-up Visit?
ASSESS (Circle all signs present) **CLASSIFY**

<p>CHECK FOR GENERAL DANGER SIGNS</p> <ul style="list-style-type: none"> • NOT ABLE TO DRINK OR BREASTFEED • VOMITS EVERYTHING • CONVULSIONS • LETHARGIC OR UNCONSCIOUS • CONVULSING NOW 	<p>General danger sign present? Yes ___ No ___ Remember to use Danger sign when selecting classifications</p>
<p>DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING?</p> <ul style="list-style-type: none"> • For how long? ___ Days • Count the breaths in one minute ___ breaths per minute. Fast breathing? • Look for chest indrawing • Look and listen for stridor • Look and listen for wheezing 	<p>Yes ___ No ___</p>
<p>DOES THE CHILD HAVE DIARRHOEA?</p> <ul style="list-style-type: none"> • For how long? ___ Days • Is there blood in the stool? • Look at the child's general condition. Is the child: <ul style="list-style-type: none"> ◦ Lethargic or unconscious? ◦ Restless and irritable? • Look for sunken eyes. • Offer the child fluid. Is the child: <ul style="list-style-type: none"> ◦ Not able to drink or drinking poorly? ◦ Drinking eagerly, thirsty? • Pinch the skin of the abdomen. Does it go back: <ul style="list-style-type: none"> ◦ Very slowly (longer than 2 seconds)? ◦ Slowly? 	<p>Yes ___ No ___</p>

4.4 CLASSIFY DIARRHOEA & DEHYDRATION

HOW WILL YOU CLASSIFY FOR MAIN SYMPTOM DIARRHOEA?

This main symptom has more than one classification table in the ASSESS AND CLASSIFY charts. You will now classify both diarrhoea and dehydration. When classifying:

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

DEHYDRATION: SICK CHILD & YOUNG INFANT

HOW DO YOU CLASSIFY DEHYDRATION?

There are three possible classifications for the type of diarrhoea. These are:

1. SEVERE DEHYDRATION
2. SOME DEHYDRATION
3. NO DEHYDRATION

Open your Chart Booklet to the dehydration classification table. What do you observe? You will now read about these classifications and identified treatments.

Two of the following signs: <ul style="list-style-type: none"> ● Lethargic or unconscious ● Sunken eyes ● Not able to drink or drinking poorly ● Skin pinch goes back very slowly. 	Pink: SEVERE DEHYDRATION	<ul style="list-style-type: none"> ■ If child has no other severe classification: <ul style="list-style-type: none"> ○ Give fluid for severe dehydration (Plan C) OR ■ If child also has another severe classification: <ul style="list-style-type: none"> ○ Refer URGENTLY to hospital with mother giving frequent sips of ORS on the way ○ Advise the mother to continue breastfeeding ■ If child is 2 years or older and there is cholera in your area, give antibiotic for cholera
Two of the following signs: <ul style="list-style-type: none"> ● Restless, irritable ● Sunken eyes ● Drinks eagerly, thirsty ● Skin pinch goes back slowly. 	Yellow: SOME DEHYDRATION	<ul style="list-style-type: none"> ■ Give fluid, zinc supplements, and food for some dehydration (Plan B) ■ If child also has a severe classification: <ul style="list-style-type: none"> ○ Refer URGENTLY to hospital with mother giving frequent sips of ORS on the way ○ Advise the mother to continue breastfeeding ■ Advise mother when to return immediately ■ Follow-up in 5 days if not improving
Not enough signs to classify as some or severe dehydration.	Green: NO DEHYDRATION	<ul style="list-style-type: none"> ■ Give fluid, zinc supplements, and food to treat diarrhoea at home (Plan A) ■ Advise mother when to return immediately ■ Follow-up in 5 days if not improving

SEVERE DEHYDRATION (RED)

Classify as SEVERE DEHYDRATION if the child has *two or more* of the following signs: lethargic or unconscious, not able to drink or drinking poorly, sunken eyes, or very slow skin pinch.

What are your actions?

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 next section.

SOME DEHYDRATION (YELLOW)

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; drinks eagerly, thirsty; sunken eyes; skin pinch goes back slowly – classify as SOME DEHYDRATION.

What are your actions?

If a child has one sign in the red (top) row and one sign in the yellow (middle) row, classify the child in the yellow row (SOME DEHYDRATION). A child who has SOME DEHYDRATION needs fluid, foods, and zinc supplements. 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. The treatment is described in the box **“Plan B: Treat Some Dehydration with ORS”**. You will learn more about ORS and zinc supplements in the next section.

NO DEHYDRATION (GREEN)

A child who does not have two or more signs in the red or yellow row is classified as having NO DEHYDRATION. This child needs extra fluid and foods to **prevent dehydration**.

The four rules of home treatment are:

1. Give extra fluid
2. Give zinc supplements
3. Continue feeding
4. Return immediately if the child develops danger signs, drinks poorly, or has blood in stool

What are your actions?

The treatment box called “Plan A: Treat Diarrhoea At Home” describes what fluids to teach the mother to give and how much she should give. A child with NO DEHYDRATION also needs food and zinc supplements. You will learn more about Plan A and zinc in the next section.

After you classify dehydration, classify the child for persistent diarrhoea if the child has had diarrhoea for 14 days or more. Then you classify for dysentery.

DIARRHOEA: SICK CHILD

HOW DO YOU CLASSIFY DYSENTERY IN A CHILD?

If the child has diarrhoea and any blood in the stool, you will classify as DYSENTERY. Review the classification table in your Chart Booklet.

<ul style="list-style-type: none"> Blood in the stool. 	<p>Yellow: DYSENTERY</p>	<ul style="list-style-type: none"> Give ciprofloxacin for 3 days Follow-up in 2 days
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A child with dysentery should be treated for dehydration. You should also give an antibiotic recommended for *Shigella* in your area. Finding the actual cause of the dysentery requires a stool culture for which it can take at least 2 days to obtain the laboratory results. You will assume *Shigella* is the cause because:

- ✓ *Shigella* causes about 60% of dysentery cases seen in clinics.
- ✓ *Shigella* causes nearly all cases of life-threatening dysentery.

HOW DO YOU CLASSIFY PERSISTENT DIARRHOEA IN A CHILD?

If the child has had **diarrhoea for 14 days or more**, you will classify for persistent diarrhoea. Health workers often mismanage persistent diarrhoea, so these instructions are important:

<ul style="list-style-type: none"> Dehydration present. 	<p>Pink: SEVERE PERSISTENT DIARRHOEA</p>	<ul style="list-style-type: none"> Treat dehydration before referral unless the child has another severe classification Refer to hospital
<ul style="list-style-type: none"> No dehydration. 	<p>Yellow: PERSISTENT DIARRHOEA</p>	<ul style="list-style-type: none"> Advise the mother on feeding a child who has PERSISTENT DIARRHOEA Give multivitamins and minerals (including zinc) for 14 days Follow-up in 5 days

SEVERE PERSISTENT DIARRHOEA (RED)

If a child has had **diarrhoea for 14 days or more and also has some or severe dehydration**, is classified SEVERE PERSISTENT DIARRHOEA. Children who are classified with SEVERE PERSISTENT DIARRHOEA should be referred to hospital.

What are your actions?

Treat the child's dehydration before referral unless the child has another severe classification. Treating dehydration in children with another severe disease can be difficult. These children should be treated in a hospital. These children need special attention to help prevent loss of fluid. They may need a change in diet. They may also need laboratory tests to identify the cause of the diarrhoea.

PERSISTENT DIARRHOEA (YELLOW)

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

What are your actions?

Special feeding is the most important treatment for persistent diarrhoea.



DVD EXERCISE – JOSH CASE STUDY

Watch “Case study Josh” (disc 1). This is a great way to practice assessing and classifying a child for general danger signs, respiratory problems, and diarrhoea. As you watch the video, complete the recording form below as you would a normal case. Assess and classify using this form and your Chart Booklet.

Does Josh present with any general danger signs? How do you classify Josh for respiratory illness? How do you classify Josh’s diarrhoea?

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

Name: _____ Age: _____ Weight (kg): _____ Temperature (°C): _____
 Ask: What are the child's problems? _____ Initial Visit? _____ Follow-up Visit? _____
ASSESS (Circle all signs present) **CLASSIFY**

CHECK FOR GENERAL DANGER SIGNS <ul style="list-style-type: none"> • NOT ABLE TO DRINK OR BREASTFEED • VOMITS EVERYTHING • CONVULSIONS 	<ul style="list-style-type: none"> • LETHARGIC OR UNCONSCIOUS • CONVULSING NOW 	General danger sign present? Yes ___ No ___ Remember to use Danger sign when selecting classifications
DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING? <ul style="list-style-type: none"> • For how long? ___ Days 	<ul style="list-style-type: none"> • Count the breaths in one minute ___ breaths per minute. Fast breathing? • Look for chest indrawing • Look and listen for stridor • Look and listen for wheezing 	Yes ___ No ___
DOES THE CHILD HAVE DIARRHOEA? <ul style="list-style-type: none"> • For how long? ___ Days • Is there blood in the stool? 	<ul style="list-style-type: none"> • Look at the child's general condition. Is the child: <ul style="list-style-type: none"> ◦ Lethargic or unconscious? ◦ Restless and irritable? • Look for sunken eyes. • Offer the child fluid. Is the child: <ul style="list-style-type: none"> ◦ Not able to drink or drinking poorly? ◦ Drinking eagerly, thirsty? • Pinch the skin of the abdomen. Does it go back: <ul style="list-style-type: none"> ◦ Very slowly (longer than 2 seconds)? ◦ Slowly? 	Yes ___ No ___



SELF-ASSESSMENT EXERCISE C

Answer the questions below about assessing and classifying diarrhoea and dehydration.

1. How many signs are needed to classify a child with SOME DEHYDRATION?

2. Give two signs that may indicate that a child has SEVERE DEHYDRATION.

3. What type of ORS should be used to treat dehydration?

4. Which children need zinc supplements?

5. What are the 4 rules of home treatment of diarrhoea?



SELF-ASSESSMENT EXERCISE D

Assess and classify dehydration in these children. Be sure to circle the signs you use to classify.

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.

<p>DOES THE CHILD HAVE DIARRHOEA?</p> <ul style="list-style-type: none"> • For how long? ___ Days • Is there blood in the stool? 	<p>Yes ___ No ___</p>
<ul style="list-style-type: none"> • Look at the child's general condition. Is the child: <ul style="list-style-type: none"> ◦ Lethargic or unconscious? ◦ Restless and irritable? • Look for sunken eyes. • Offer the child fluid. Is the child: <ul style="list-style-type: none"> ◦ Not able to drink or drinking poorly? ◦ Drinking eagerly, thirsty? • Pinch the skin of the abdomen. Does it go back: <ul style="list-style-type: none"> ◦ Very slowly (longer than 2 seconds)? ◦ Slowly? 	

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

<p>DOES THE CHILD HAVE DIARRHOEA?</p> <ul style="list-style-type: none"> • For how long? ___ Days • Is there blood in the stool? 	<p>Yes ___ No ___</p>
<ul style="list-style-type: none"> • Look at the child's general condition. Is the child: <ul style="list-style-type: none"> ◦ Lethargic or unconscious? ◦ Restless and irritable? • Look for sunken eyes. • Offer the child fluid. Is the child: <ul style="list-style-type: none"> ◦ Not able to drink or drinking poorly? ◦ Drinking eagerly, thirsty? • Pinch the skin of the abdomen. Does it go back: <ul style="list-style-type: none"> ◦ Very slowly (longer than 2 seconds)? ◦ Slowly? 	

■ **How will you classify Mary’s diarrhoea?**

Mary has had diarrhoea for 3 days, which is an **acute** episode of diarrhoea. She does not have **persistent** diarrhoea, which lasts 14 days or more. She does not have dysentery, as there is no blood in the stool.

Every child with diarrhoea is also classified for dehydration.

■ **How will you classify Mary’s dehydration?**

When you assessed Mary, you observed the following signs:

- She has sunken eyes
- She is eager to drink
- Her skin pinch goes back *slowly*

With these signs, you classify Mary with **SOME DEHYDRATION**. Look at your classification table. What do you observe about the identified treatments for this classification?

Two of the following signs: <ul style="list-style-type: none"> ● Movement only when stimulated or no movement at all ● Sunken eyes ● Skin pinch goes back very slowly. 	Pink: SEVERE DEHYDRATION	<ul style="list-style-type: none"> ■ If infant has no other severe classification: <ul style="list-style-type: none"> ○ Give fluid for severe dehydration (Plan C) <li style="text-align: center;">OR ■ <i>If infant also has another severe classification:</i> <ul style="list-style-type: none"> ○ <i>Refer URGENTLY to hospital with mother giving frequent sips of ORS on the way</i> ○ <i>Advise the mother to continue breastfeeding</i>
Two of the following signs: <ul style="list-style-type: none"> ● Restless and irritable ● Sunken eyes ● Skin pinch goes back slowly. 	Yellow: SOME DEHYDRATION	<ul style="list-style-type: none"> ■ Give fluid and breast milk for some dehydration (Plan B) ■ <i>If infant has any severe classification:</i> <ul style="list-style-type: none"> ○ <i>Refer URGENTLY to hospital with mother giving frequent sips of ORS on the way</i> ○ <i>Advise the mother to continue breastfeeding</i> ■ Advise mother when to return immediately ■ Follow-up in 2 days if not improving
Not enough signs to classify as some or severe dehydration.	Green: NO DEHYDRATION	<ul style="list-style-type: none"> ■ Give fluids to treat diarrhoea at home and continue breastfeeding (Plan A) ■ Advise mother when to return immediately ■ Follow-up in 2 days if not improving

You tell Ana that Mary has some dehydration. It is not serious enough to send her to the hospital. You can begin treatment at the clinic, and she can continue treatment at home. Ana looks relieved.

You will now learn more about treatment in the next section.

4.5 TREAT THE CHILD WITH DIARRHOEA

Children with diarrhoea are treated for dehydration. They are also treated for their diarrhoea, if they have persistent diarrhoea or dysentery.

WHAT TREATMENTS ARE IDENTIFIED FOR DIARRHOEA AND DEHYDRATION?

Open your classification tables for dehydration, persistent diarrhoea, and dysentery and review the “IDENTIFY TREATMENT” columns. The **colour-coded classifications also indicate where the treatment can be delivered** – by urgent referral, at the clinic, or at home.

Identified treatments are listed below. These are all new treatments, so you will learn about all of them in this section:

- ✓ Plans A, B, and C for giving fluids and food
- ✓ Giving ORS for dehydration
- ✓ Zinc supplementation
- ✓ Ciproflaxacin for dysentery

DEHYDRATION: SICK CHILD & YOUNG INFANT

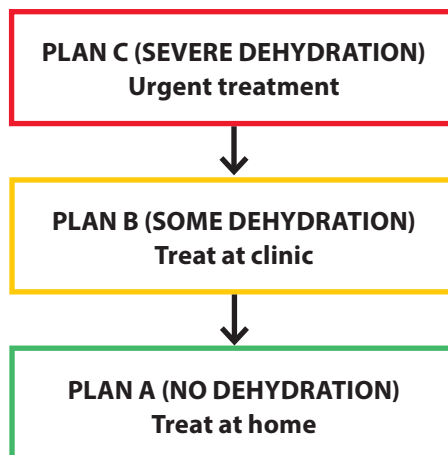
HOW DO YOU TREAT DEHYDRATION?

When you classified the severity of dehydration, you identified the appropriate treatment to replenish fluids or prevent dehydration.

There are three plans to provide fluid and replace water and salts lost in diarrhoea:

- **PLAN A** – treat diarrhoea at home
- **PLAN B** – treat SOME DEHYDRATION with low osmolarity oral rehydration salts (ORS)
- **PLAN C** – treat SEVERE DEHYDRATION quickly with intravenous (IV) fluids

In the following pages, you will now learn how to give Plans A, B, and C.



PLAN C (SEVERE DEHYDRATION) Urgent treatment

HOW IS PLAN C GIVEN?

Severely dehydrated children and young infants need to have water and salts quickly replaced. Plan C requires rapid hydration using **IV fluids** or a **nasogastric (NG) tube**.

It is important to note that rehydration therapy using IV fluids or using a nasogastric (NG) tube is **recommended only for children who have SEVERE DEHYDRATION**.

WHERE IS PLAN C GIVEN?

Open to Plan C in your Chart Booklet. There is a flow chart determining where is the safest place to treat the severely dehydrated child.

You will observe that the treatment of the severely dehydrated child depends on:

- Type of available equipment at your clinic or at a nearby clinic or hospital,
- Training you have received
- If the child can drink



IN YOUR CLINIC, WHERE IS THE SAFEST PLACE TO GIVE PLAN C?

This is important for you to determine based on available equipment and your training. **If you cannot give IV or NG fluid and the child cannot drink, refer the child urgently to the nearest hospital that can give IV or NG treatment.**

If IV (intravenous) treatment is available within a 30-minute drive, refer urgently to hospital for treatment with IV fluids. On the way to hospital, have the mother offer frequent sips of ORS to her sick child.

**Are you able to provide Plan C in your clinic?
If not, where will you refer?**

PLAN B (SOME DEHYDRATION) Treat at clinic

A child or young infant with some dehydration needs fluid, zinc supplementation, and food. You will give zinc just as you will for Plan A.

HOW IS PLAN B GIVEN?

Plan B begins with a 4-hour treatment period at the clinic. During the 4 hours, the mother slowly gives a recommended amount of ORS solution. If a child who has SOME DEHYDRATION needs treatment for other problems, you should start treating the dehydration first. Then provide the other treatments.

After the 4 hours, you will reassess and classify the child's dehydration. If the signs are gone, put the child on Plan A for home treatment. If there is still some dehydration, the child repeats Plan B. If the child now has SEVERE DEHYDRATION, put the child on Plan C.

WHAT HAPPENS IF A CHILD HAS A SEVERE CLASSIFICATION AND NEEDS PLAN B?

A child who has a severe classification and SOME DEHYDRATION **needs urgent referral** to hospital.¹ Do not try to rehydrate the child before he leaves. Quickly give the mother some ORS solution. Show her how to give frequent sips to child on the way to the hospital.

HOW WILL YOU TEACH THE CAREGIVER TO GIVE ORS IN THE CLINIC?

Now study Plan B in your TREAT THE CHILD section. It contains the following instructions:

1. DETERMINE AMOUNT of ORS to give during first 4 hours.

Use the chart in Plan B to determine how much ORS to give. To find the recommended amount, look below the child's weight (or age only if the weight is not known). The child will usually want to drink as much as he needs. If the child wants more or less than the estimated amount, give him what he wants. The mother should also breastfeed whenever the baby wants to, then resume the ORS solution.

2. SHOW THE MOTHER HOW TO GIVE ORS SOLUTION.

Find a comfortable place in the clinic for the mother to sit with her child. **Tell her how much** ORS solution to give over the next 4 hours. **Show her the amount in units** that are used in your area. If the child is less than 2 years, show her how to give a spoonful frequently. If the child is older, show her how to give frequent sips from a cup. **Sit with her while she gives the child the first few sips from a cup or spoon. Ask her if she has any questions.**

¹ The exception is a child with the severe classification, SEVERE PERSISTENT DIARRHOEA. This child should be rehydrated then referred.

REFRESH: how do you decide amount of ORS to give?

1. Use chart in Plan B with child's weight
2. If no chart, multiple child's weight (kg) by 75 (Example: 8 kg child x 75 ml = 600 ml)

WHAT WILL YOU DO WHILE THE MOTHER GIVES ORS FOR 4 HOURS?

- **Show the caregiver** where to wash her hands, and where she can change the child's nappy or where the child can use a toilet.
- **Check with the mother from time to time to see if she has problems.** If the child is not drinking the ORS solution well, try another method of giving the solution. You may try using a dropper or a syringe without the needle.
- **This also provides valuable time to teach the mother about care for her child. The first concern is to rehydrate the child.** When the child is obviously improving, the mother can turn her attention to learning. Teach her about mixing and giving ORS solution (Plan A).
- It is a good idea to have **printed information** that the mother can study while she is sitting with her child. Posters on the wall can also reinforce this information.

TIPS FOR THE YOUNG INFANT

During the first 4 hours of rehydration, encourage the mother to pause to breastfeed the infant whenever the infant wants, then resume giving ORS. Give a young infant who does not breastfeed an additional 100–200 ml clean water during this period.



HOW WILL YOU REASSESS THE CHILD AFTER 4 HOURS?

After four hours you will reassess the child using the ASSESS AND CLASSIFY chart. Classify the dehydration. Choose the appropriate plan to continue treatment. **If the child is not taking the ORS solution, or seems to be getting worse, reassess before four hours.**

Depending on your classifications, you will take further action:

- If the child has **NO DEHYDRATION**, move to Plan A. Counsel on home care.
- If the child has **SOME DEHYDRATION**, choose Plan B again. Begin feeding the child in clinic. Offer food, milk, or juice. Continue to breastfeed frequently if child is breastfed.
- If the child is worse and now has **SEVERE DEHYDRATION**, begin Plan C.

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

WHAT HAPPENS IF A CAREGIVER MUST LEAVE BEFORE FINISHING 4 HOURS OF ORS?

1. Show the caregiver how to prepare ORS solution and have her practice.
2. Show her how much ORS to give to complete the 4-hour treatment at home.
3. Give her packets to complete rehydration PLUS 2 more packets as recommended in Plan A.
4. Explain 4 rules of home treatment



SELF-ASSESSMENT EXERCISE E

Answer the following questions about **PLAN B** for dehydrated children.

1. The following children are classified SOME DEHYDRATION. Write the range of amounts of ORS solution each child is likely to need in the first 4 hours of treatment:

Name	Age or Weight	Range of Amounts of ORS Solution
a. Andras	3 years	
b. Gul	10 kg	
c. Nirveli	7.5 kg	
d. Sami	11 months	

2. Vinita is 5 months old and has diarrhoea. She is classified as SOME DEHYDRATION. There is no scale for weighing Vinita at the small clinic. Vinita’s mother died during childbirth, so Vinita has been taking infant formula. The grandmother has recently started giving cooked cereal as well.

a. Vinita should be given ____ ml of _____ during the first ____ hours of treatment. She should also be given ____ ml of _____ during this period.

b. What should the grandmother do if Vinita vomits during the treatment?

c. When should the health worker reassess Vinita?

d. When Vinita is reassessed, she has NO DEHYDRATION. What treatment plan should Vinita be put on?

3. Yasmin is 9 months old and weighs 8 kg. Her mother brought her to the clinic with diarrhoea. The health worker assesses Yasmin as SOME DEHYDRATION. The health worker chooses Plan B. He asks if Yasmin still breastfeeds. Her mother says that she breastfeeds several times each day. She also eats 3 meals each day of rice along with vegetables, pulses, and sometimes bits of meat.

a. Approximately how much ORS solution should Yasmin’s mother give her during the first 4 hours?

b. During the first 4 hours of treatment, should Yasmin eat or drink anything in addition to the ORS solution? If so, what?

c. After 4 hours of treatment, the health worker reassesses Yasmin. She is still classified as SOME DEHYDRATION. What is the appropriate plan to continue her treatment?

PLAN A (NO DEHYDRATION) Treat at home

A child with diarrhoea but no dehydration requires fluid, zinc, and food to prevent dehydration. This child can be treated at home with Plan A.

WHAT IS PLAN A?

Plan A is based on the four rules of home treatment. These are critical for you to remember. Plan A requires you to counsel the child's mother about the 4 rules of home treatment. As such, your teaching and advising skills are an important part of Plan A.

Plan A is also an important treatment plan because eventually, all children with diarrhoea will require Plan A. Children with diarrhoea who come to a health worker with NO DEHYDRATION are put on Plan A right away. Child with more serious dehydration will first be treated with Plan B or C, and then they will be put on Plan A.

WHAT ARE THE 4 RULES OF HOME TREATMENT?

The four rules of home treatment are very important to remember:

1. Give extra fluid – as much as the child will take
2. Give zinc
3. Continue feeding
4. When to return (for a follow-up visit, or immediately if danger signs develop)

Now you will learn more about the four rules of home treatment. **Open to Plan A in your Chart Booklet to read along with the instructions.**

RULE 1: GIVE EXTRA FLUID

Tell the caregiver to give as much fluid as the child will take. It is very important for the child to have extra fluid – as much as the child will take. The purpose of giving extra fluid is to replace the fluid lost in diarrhoea and thus to prevent dehydration. The critical action is to give more fluid than usual, as soon as the diarrhoea starts.

HOW SHOULD THE CAREGIVER GIVE EXTRA FLUID?

Tell the mother that **breastfeeding** should continue, with the addition of **ORS** and **clean water**. If the child is exclusively breastfed, it is important for this child to be breastfed more frequently than usual. Breastfed children under 4 months should first be offered a breastfeed then given ORS.

If the child is not being breastfed, the child should receive ORS solution, food-based fluids (soup, rice water, yoghurt drinks), and clean water. In your country, the national programme for diarrhoeal disease control may have specified several food-based fluids to use at home.

TIPS FOR THE YOUNG INFANT

- **If infant is exclusively breastfed**, it is important not to introduce a food-based fluid.
- **If infant will be given ORS solution at home**, you will show how much ORS to give the infant after each loose stool. Mother should first offer a breastfeed, then give ORS.

HOW WILL YOU TEACH THE CAREGIVER TO MIX ORS?

Teach the caregiver how to mix and give ORS. Ask the caregiver to practice doing it as you observe. The steps for making ORS are (follow along in drawings below):

- ✓ Wash your hands with soap and water
- ✓ **Pour all the powder** from one packet into a clean container. Use any available container, such as a jar, bowl or bottle.
- ✓ **Measure 1 litre of clean water (or correct amount for packet used)**. It is best to boil and cool the water, but if this is not possible, use the cleanest drinking water available.
- ✓ **Pour the water into the container**. Mix well until the powder is completely dissolved.
- ✓ Taste the solution so you know how it tastes.

The caregiver should mix fresh ORS every day, in a clean container. She should keep the container covered. She should throw away any solution remaining from the day before.



HOW WILL THE CAREGIVER GET ORS TO USE IN THE HOME?

Give the caregiver 2 packets of ORS to use at home. Show her how much fluid should be given in addition to the usual fluid intake:

- Up to 2 years: 50–100 ml after each loose stool
- 2 years or older: 100–200 ml after each loose stool

HOW WILL YOU TEACH THE CAREGIVER TO GIVE ORS?

Finally, give the caregiver instructions for giving ORS:

1. Give frequent small sips from a cup
2. If child vomits, wait 10 minutes. Then continue, but more slowly.
3. Continue giving extra fluid until the diarrhoea stops

WHEN IS ORS ESPECIALLY IMPORTANT?

It is especially important to give ORS at home when:

- ✓ Child was treated with Plan B or C during this visit – in other words, the child has just been rehydrated and needs ORS to prevent dehydration from coming back
- ✓ Child cannot return to the clinic if the diarrhoea gets worse – for example, if the family lives far away or the mother has a job that she cannot leave

RULE 2: GIVE ZINC SUPPLEMENTS

Zinc treatment can **considerably reduce the duration and severity of a child's diarrhoeal episode**. It is also shown to decrease stool output and decrease the need to hospitalize a child with diarrhoea.

Zinc is only given to children 2 months up to 5 years. This box describes how much zinc to give a child with diarrhoea. Review this information in Plan A in your Chart Booklet.

GIVE ZINC SUPPLEMENTS (one tablet is 20 mg zinc)

Remind the caregiver to give zinc supplements for the full 14 days

Tell the caregiver how much zinc to give

Up to 6 months: ½ tablet per day, for 14 days

6 months or older: 1 tablet per day, for 14 days

Show the caregiver how to give zinc supplements

Infants: dissolve the tablet in a small amount of breast milk, ORS, or clean water in a small cup or spoon

Older children: tablets can be chewed or dissolved in small amount of clean water in a cup or spoon

RULE 3: CONTINUE FEEDING

You will learn more about special feeding recommendations if the child has persistent diarrhoea.



RULE 4: WHEN TO RETURN

You have learned the signs when a caregiver should return immediately to a health worker.

Tell the mother of any sick child that the signs to return are:

- Not able to drink or breastfeed
- Becomes sicker
- Develops a fever

If the child has diarrhoea, also tell the mother to return if the child has:

- Blood in stool
- Drinking poorly – also includes not able to drink or breastfeed



SELF-ASSESSMENT EXERCISE F

Answer the following questions about PLAN A for children with diarrhoea.

1. At your clinic, what are the recommended fluids for children with diarrhoea with NO DEHYDRATION?

2. Somi is a 4-year-old boy who has diarrhoea. He has no general danger signs. He was classified as having diarrhoea with NO DEHYDRATION and NO ANAEMIA AND NOT VERY LOW WEIGHT. He will be treated according to Plan A.

a. What are the 4 rules of home treatment of diarrhoea?

b. What fluids should the health worker tell his mother to give?

3. Kasit is a 3-month-old boy who has diarrhoea. He has no general danger signs. He was classified as NO DEHYDRATION and NO ANAEMIA AND NOT VERY LOW WEIGHT. He is exclusively breastfed. What should the health worker tell his mother about giving him extra fluids?

4. For which children with NO DEHYDRATION is it especially important to give ORS at home?

5. The following children came to the clinic because of diarrhoea. They were assessed and found to have no general danger signs. They were classified as NO DEHYDRATION. Write the amount of extra fluid that the mother should give after each stool.

Name	Age	Amount of extra fluid to give after each loose stool
a. Kala	6 months	
b. Sam	2 years	
c. Kara	15 months	
d. Lalita	4 years	

DIARRHOEA: SICK CHILD

Treatment is required for children who have persistent diarrhoea or dysentery.

HOW WILL YOU TREAT SEVERE PERSISTENT DIARRHOEA?

Children with this classification have persistent diarrhoea (14 days or longer) and signs of dehydration. These children should be referred to hospital. They need special attention to prevent fluid loss. You should treat dehydration before referral, unless child has another severe classification.

HOW WILL YOU TREAT PERSISTENT DIARRHOEA?

Children with this classification have persistent diarrhoea (14 days or longer) and no signs of dehydration. **Special feeding** is the most important treatment for persistent diarrhoea with no signs of dehydration. Children with persistent diarrhoea **may have difficulty digesting milk other than breastmilk**. They need to temporarily reduce the amount of other milk in their diet.

Special feeding advice for a child with PERSISTENT DIARRHOEA includes:

- ✓ If still breastfeeding, give more frequent, longer breastfeeds, day and night.
- ✓ If taking other milk:
 - Replace with increased breastfeeding, OR
 - Replace with fermented milk products, such as yogurt, OR
 - Replace half the milk with nutrient-rich semi-solid food.
- ✓ For other foods, follow feeding recommendations for the child’s age: give small, frequent meals (at least 6 times a day), and avoid very sweet foods or drinks.

The child also should receive zinc for 14 days. The child should follow up in 5 days.

HOW WILL YOU TREAT DYSENTERY?

Children with dysentery should receive **ciprofloxacin for 3 days** (or another oral antibiotic recommended for *Shigella* in your area). The box “Give an Appropriate Oral Antibiotic” on the TREAT THE CHILD chart tells the recommended antibiotics. Refer to Module 3 to review counselling the caregiver on oral medicines. They should also receive **zinc supplements**. Zinc should be given in the same way that you learned previously in Plans A and B. Treat dehydration as classified. Children should follow-up for the dysentery in 2 days.

WHEN SHOULD ANTIBIOTICS BE USED FOR DIARRHOEA?

Antibiotics are not effective in treating most diarrhoea. They rarely help and make some children sicker. Unnecessary use of antibiotics may increase the resistance of some pathogens. In addition, antibiotics are costly. Money is often wasted on ineffective treatment. Therefore, do not give antibiotics routinely. The only types of diarrhoea that should be treated with antibiotics are **DYSENTERY** and diarrhoea with **SEVERE DEHYDRATION with cholera in the area.**



SELF-ASSESSMENT EXERCISE G

Answer the questions below about treatment for diarrhoea and dehydration.

1. How will you give zinc supplements to a 4 month old infant, weight 7.3 kg, with SOME DEHYDRATION?

2. How will you give zinc supplements to a 37 month old infant, weight 12 kg, with NO DEHYDRATION?

3. How would you treat a 9 month old, weighing 8.3 kg, with a classification of DYSENTERY?

4. How would you treat a 36 month old, weighing 15 kg, with a classification of DYSENTERY?

5. How would you treat a 7 month old with SEVERE PERSISTENT DIARRHOEA?

6. You are talking with the mother of a 15-month-old child who is no longer breastfed. The child has PERSISTENT DIARRHOEA. He normally takes 2 feedings of cow’s milk and 1 meal of family foods each day. His diet has not changed during the diarrhoea. Which of the following are appropriate to say when counselling this mother? Tick appropriate comments.

- a. You were right to keep feeding your child during the diarrhoea. He needs food to stay strong.
- b. Your child needs more food each day. Try to give him 3 family meals plus 2 feedings between meals.
- c. Cow’s milk is very bad for your child.
- d. Your child may be having trouble digesting the cow’s milk, and that may be the reason that the diarrhoea has lasted so long.
- e. Give your child yoghurt instead of milk (until follow-up visit in 5 days). Or give only half the usual milk and increase the amount of family foods to make up for this.

■ What treatment will Mary require?

Mary has an acute episode of diarrhoea lasting for 3 days, and there is no blood in the stool, so you did not classify her for persistent diarrhoea or dysentery.

You classified Mary’s dehydration as SOME DEHYDRATION. Review what treatments were identified for SOME DEHYDRATION.

<p>Two of the following signs:</p> <ul style="list-style-type: none"> ● Restless, irritable ● Sunken eyes ● Drinks eagerly, thirsty ● Skin pinch goes back slowly. 	<p>Yellow: SOME DEHYDRATION</p>	<ul style="list-style-type: none"> ■ Give fluid, zinc supplements, and food for some dehydration (Plan B) ■ If child also has a severe classification: <ul style="list-style-type: none"> ○ Refer URGENTLY to hospital with mother giving frequent sips of ORS on the way ○ Advise the mother to continue breastfeeding ■ Advise mother when to return immediately ■ Follow-up in 5 days if not improving
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You will remember from this section that SOME DEHYDRATION requires Plan B for fluids, foods, and zinc. Plan B will require Ana to give ORS to Mary for 4 hours in the clinic, then you will re-assess Mary’s dehydration.

Open your Chart Booklet to review Plan B.

The steps of Plan B are:

1. **Determine the amount of ORS to give for the first 4 hours in the clinic.** Mary is 8 kg and 9 months old. We review the chart in Plan B and decide that she should receive between 450 and 800 ml of ORS. If we had calculated with the second method, multiplying her weight 8 kg by 75 ml, we would have calculated 560 ml, which is within the chart range.

2. **Teach Ana how to give the ORS solution.** You explain to Ana that Mary has diarrhoea with some dehydration. She needs fluids and food. You ask Ana to stay at the clinic to give Mary ORS solution. Show Ana how much ORS to give from a cup.

You take Ana to a corner where she can sit with Mary and give the ORS. You show her where you can wash her hands, and where she can change Mary or use the toilets. You make sure she is comfortable. She does not have any questions for you, but it worried about staying too late at the clinic because her husband will worry. You assure her that she can give all of the ORS now, and then you will work with her to decide about treatment later tonight at home. Ana props Mary on her lap. She slowly begins to give her ORS from a cup. You also encourage Ana to breastfeed if Mary wants to.

3. **After 4 hours, you reassess Mary.** She had NO DEHYDRATION. Her diarrhoea continued, but you think that she is ready to go home on Plan A. Plan A will also include giving zinc and food.

4.6 COUNSEL THE CAREGIVER

Good teaching and advising skills are particularly important when treating dehydration and diarrhoea. As you read in the previous section on treatment, the caregiver gives many of the treatments in the clinic or at home. This requires you to teach them how to give the treatment.

WHAT ARE THE 4 RULES OF HOME TREATMENT?

It is very important to counsel caregivers on the 4 rules of home treatment.

This is required for Plan A. Child classified with NO DEHYDRATION need Plan A. After children who required Plan B or C have completed this plan, they will also require Plan A at home.

1. **Give extra fluid – as much as the child will take**
2. **Give zinc**
3. **Continue feeding**
4. **When to return (for a follow-up visit, or immediately if danger signs develop)**

RULE 1. How will you counsel a caregiver to give extra fluid?

You will tell a caregiver that during illness, a child loses fluid due to fever, fast breathing, or diarrhoea. The child will feel better and stay stronger if he drinks extra fluid to prevent dehydration. Extra fluid is especially important for children with diarrhoea.

FIRST, TELL THE CAREGIVER TO GIVE AS MUCH FLUID AS THE CHILD WILL TAKE.

The purpose of giving extra fluid is to **replace the fluid lost** in diarrhoea and thus to prevent dehydration. **The critical action is to give more fluid than usual as soon as the diarrhoea starts.** More fluid can be given by:

- Breastfeeding more frequently, and for longer feeds. If the child is exclusively breastfed, also give ORS or clean water in addition.
- If child is not breastfed, increase fluid with food-based fluids (soup, rice water, yoghurt drinks), or ORS
- ORS is especially important at home if the child was treated on Plan B or C, or if the child cannot return to the clinic if the diarrhoea gets worse

SECOND, teach the caregiver how to mix and give ORS.

Review these teaching steps in the previous TREAT section. Ask the caregiver to practice doing it as you observe. You will review these steps, which are also discussed in Plan B in the previous section:

1. Wash hands with soap and water
2. Pour the ORS powder into a clean container

3. Measure 1 litre of water (or specified amount). It is best to boil and cool water.
4. Pour the water into the container with the powder. Mix and taste.
5. Give solution to the child slowly, by cup. If the child vomits, wait **for 10 minutes** and then continue more slowly.
6. Always make fresh ORS solution each day. Keep the solution covered.

RULE 2. How will you counsel a caregiver to give zinc?

Your TREAT chart and the previous section describe how much zinc to give a child with diarrhoea. Zinc is only given to children 2 months up to 5 years.

Show the mother how to give the zinc to her baby with diarrhoea. For example, infants can be given the tablet dissolved in a small amount of expressed breast milk ORS, or clean water in a cup. Older children can chew the tablet or take it in a small amount of clean water.

The mother should give her child the first zinc supplement. If a child is 2 months up to 6 months, he can have half a 20 mg tablet daily for 14 days. A child 6 months or older can take a whole 20 mg tablet. **Explain how she will continue to give this treatment for 14 days.** Check her understanding with checking questions, and answer any problems she has.

RULE 3. How will you counsel a caregiver to continue feeding?

The caregiver should continue feeding, as explained in the previous TREAT section.

You will also remember that children with persistent diarrhoea have special feeding needs. It may be difficult for these children to digest milk other than breast milk. Caregivers need to temporarily reduce the amount of other milk in the child's diet. To make up for this reduction, the child must take more breast milk or other foods. Continue other foods appropriate for the child's age. The child with persistent diarrhoea should be seen again in 5 days for follow-up, and will be given further feeding instructions during this visit.

RULE 4. How will you counsel a caregiver to return to clinic?

You will advise on follow-up care as you would with all other conditions.

Remember that if the child is required to follow up for more than one illness, they should return for follow-up at the earliest definite date. The child should follow up:

Immediately if	<ul style="list-style-type: none"> • The child is not able to breastfeed or drink • Becomes sicker • Develops a fever • Has blood in the stool
In 3 days if	The child has dysentery
In 5 days if	The child has persistent diarrhoea



SELF-ASSESSMENT EXERCISE H

Complete this case study.

CASE STUDY: Health worker Basaka must teach a mother to prepare ORS solution for her child with diarrhoea. First he explains how to mix the ORS, then he shows her how to do it. He asks the mother, “Do you understand?” The mother answers “yes”. So Basaka gives her 2 ORS packets and says good-bye.

1. What are the four rules of home treatment that must be explained to the mother?

2. What information did Basaka give the mother about the task?

3. Did he show her an example?

4. Did he ask her to practice?

5. How did Basaka check the mother’s understanding?

6. Did Basaka check the mother’s understanding correctly?

7. How would you have checked the mother’s understanding?



SELF-ASSESSMENT EXERCISE I

Answer these questions about counselling a caregiver.

1. A 4-year-old boy has diarrhoea. He has no general danger signs. He was classified with NO DEHYDRATION and NO ANAEMIA AND NOT VERY LOW WEIGHT. The health worker has taught his mother Plan A and given her 2 packets of ORS to use at home. *Tick all the fluids that the mother should encourage her son to drink as long as the diarrhoea continues.*

- Tea that the child usually drinks with meals
- Fruit juice that the child usually drinks each day
- Water from the water jug. The child can get water whenever he is thirsty.
- ORS after each loose stool
- Yoghurt drink when the mother makes some for the family

2. A mother brought her 11-month-old daughter, Aviva, to the clinic because she has diarrhoea. Aviva usually eats cereal and bits of meat, vegetables and fruit. Her mother has continued to breastfeed her as well. The mother says she lives far from the clinic and might not be able to come back for several days, even if the child gets worse.

The health worker assesses Aviva and finds she has no general danger signs and no other disease classifications. He classifies her as NO DEHYDRATION. He decides Aviva needs treatment according to Plan A.

- a. Should the health worker give this mother ORS packets to take home? If so, how many one-litre packets should he give?

- b. What should the mother do if the child vomits while being fed the solution?

- c. How long should Aviva's mother continue giving extra fluid?

- d. The health worker will tell the mother to continue feeding Aviva. He will also teach her the signs to return immediately. What signs should the health worker teach Aviva's mother?

3. Which of the following is the best checking question after advice about increasing fluids during diarrhoea? (*Tick one.*)
- a. Do you remember some good fluids to give your child?
- b. Will you be sure to give your child extra fluid?
- c. How much fluid will you give your child

■ What do you advise Ana about home treatment?

You classified Mary with **SOME DEHYDRATION** and gave her Plan B in the clinic. You re-assessed after Ana had been giving her ORS for 4 hours, and Mary showed signs of **NO DEHYDRATION**.

You will now counsel Ana on home treatment of diarrhoea with Plan A. You give Ana a *Mothers' Card* to take home. This card reminds her of important information like what fluids and food to give her child.

■ What are the 4 rules of home treatment you will teach Ana?

1. You tell Ana to give extra fluid, as much as Mary will take.

This will include breast milk, clean water, ORS, or food-based fluids such as soup, rice water, yogurt drinks. You ask Ana which of these options she will use to give Mary more fluid. Ana says that Mary takes rice water well, and she will still breastfeed. She will also try to get some yogurt from a neighbour who makes some. You remind Ana to breastfeed as often as Mary will.

You previously taught Ana how to make the ORS when you were preparing it in the clinic. You ask her checking questions to make sure she remembers how to make it.

- You ask, "How much clean water do you need for 1 packet of ORS?" Ana says, "1 litre."
- You ask, "How will you give the ORS?" Ana says, "With a cup, as she sits in my lap."
- You also ask Ana, "How often will you give ORS?" "What will you do if Mary vomits?"

You remind Ana that if Mary vomits, she should wait 10 minutes, then continue again, but more slowly. You give Ana 2 packets of ORS to take home.

2. You advise Ana how to give Mary zinc tablets.

Mary is 9 months old, so she will take 1 full tablet a day for 14 days. You show Ana how to dissolve the tablet in a spoon with breast milk or clean water. You explain why you are giving zinc to Ana, that it is a good nutrient for the body that will help with Mary's diarrhoea.

3. You advise Ana to continue feeding, and that Mary should get between 50–100 ml of solution after each loose bowel movement.

4. You advise Ana to return to the clinic immediately if Mary develops the following: she is not able to breastfeed or drink, she becomes sicker, she develops a fever, she has blood in the stool. You use Ana's Mother's Card to demonstrate these signs. Mary does not have other illnesses that require specific follow-up, or else you would have given them a specific date to return.

Your conversation with Ana also gives her a chance to ask questions. Your checking questions gave you an idea of how much she understands home treatment. After you talk with Ana, you feel confident that she understands home treatment, and you say goodbye to her and Mary.

4.7 PROVIDE FOLLOW-UP CARE FOR DIARRHOEA

DO YOU REMEMBER THE STEPS FOR PROVIDING FOLLOW-UP CARE?

First, you will re-assess your earlier classifications. Is the child:

- ▲ Improving?
- ▶ The same?
- ▼ Worsening?

Second, you will reassess the child using IMCI to see if there are any new issues. You will use a second recording form for this visit.

DIARRHOEA IN SICK YOUNG INFANT (FOLLOW-UP 2 DAYS)

When an infant with diarrhoea follows-up in 2 DAYS, you will:

- ✓ ASK – Has the diarrhoea stopped?

▲ DIARRHOEA HAS STOPPED

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

▶ ▼ DIARRHOEA HAS NOT STOPPED

If the diarrhoea has not stopped, reassess the young infant for diarrhoea. Classify the dehydration and select a fluid plan.

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

PERSISTENT DIARRHOEA (FOLLOW-UP 5 DAYS)

First you will **ASK**:

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

▲ DIARRHOEA HAS STOPPED (less than 3 stools/day)

Tell the mother to follow the usual feeding recommendations for the child's age. If the child is not normally fed in this way, you need to teach her the feeding recommendations on the COUNSEL chart.

▼ DIARRHOEA HAS NOT STOPPED (more than 3 stools/day)

Do a full reassessment of the child. Identify and manage any problems that require immediate attention such as dehydration. Then refer the child to hospital.

DYSENTERY (FOLLOW-UP 3 DAYS)

First you will **ASK**:

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

▲ **FEWER STOOLS, LESS BLOOD IN STOOLS, LESS FEVER, LESS ABDOMINAL PAIN, AND EATING BETTER**

The child is improving on the antibiotic ciprofloxacin. Usually all of these signs will diminish if the antibiotic is working. If only some signs have diminished, use your judgment to decide if the child is improving. Tell the mother to finish the 3 days of the ciprofloxacin prescribed. Review with the mother the importance of finishing the antibiotic.

► **CHILD IS DEHYDRATED**

Use the classification table to classify the child's dehydration. Select the appropriate fluid plan and treat the dehydration.

▼ **MORE STOOLS, BLOOD IN STOOLS, FEVER, ABDOMINAL PAIN, AND EATING IS SAME OR WORSE**

The child is not improving on the antibiotic. Stop the first antibiotic and give the second-line antibiotic recommended for *Shigella* for 5 days. Refer to TREAT chart. Antibiotic resistance of *Shigella* may be causing the lack of improvement. **Advise the caretaker to return in 2 days.**

What actions will you take?

- ✓ Give the first dose of the new antibiotic in the clinic.
- ✓ Teach the caregiver how and when to give the antibiotic and help her plan how to give it.
- ✓ Advise the caregiver to bring the child back again after two more days.

What actions will you take on the follow-up visit in 2 days?

If the child has received the second-line antibiotic for two days, and has not improved, the child may have **amoebiasis**. This child may be treated with metronidazole if it is available or can be obtained by the family, or referred for treatment. Amoebiasis can only be diagnosed with certainty when trophozoites of *E. histolytica* containing red blood cells are seen in a fresh stool sample.

REFER if the non-improving child has any of these 3 high-risk factors:

1. Less than 12 months old, or
2. Was dehydrated on the first visit, or
3. Had measles within the last 3 months,

■ How do you provide Mary with follow-up care?

You classified Mary with SOME DEHYDRATION, and she received Plan B in the clinic. Then you re-assess her, and classified with NO DEHYDRATION. You counselled her mother Ana on Plan A home treatment, and sent them home.

Ana and Mary were only supposed to return for follow-up if Mary's dehydration and diarrhoea did not improve. You are pleased that Mary does not return to the clinic for follow-up. You hope this means that the fluid plan worked, and Mary was no longer dehydrated and acting unwell.



SELF-ASSESSMENT EXERCISE J

Answer questions for this case about follow-up of DYSENTERY or PERSISTENT DIARRHOEA.

Details about this clinic: *This clinic refers children with severe dehydration because health workers cannot give IV or NG therapy. A hospital nearby can give IV therapy.*

Evaristo was brought for follow-up of PERSISTENT DIARRHOEA after 5 days. He is 9 months old and weighs 6.5 kg. His temperature is 36.5 °C today. He is no longer breastfed. His mother feeds him cereal twice a day and gives him a milk formula 4 times each day. When you saw him last week, you advised his mother to give him only half his usual amount of milk. You also advised the mother to replace half the milk by giving extra servings of cereal with oil and vegetables or meat or fish added.

1. What is your first step for reassessing Evaristo?

2. Evaristo's mother says the diarrhoea has not stopped. What do you do next?

You do a complete reassessment of Evaristo, as on the ASSESS & CLASSIFY chart. You find that Evaristo has no general danger signs. He has no cough. When you reassess his diarrhoea, his mother says that now he has had diarrhoea for about 3 weeks. There is no blood in the stool. Evaristo is restless and irritable. His eyes are not sunken. When you offer him some water, he takes a sip but does not seem thirsty. A skin pinch goes back immediately. Evaristo's mother tells you that he has no other problems.

3. Is Evaristo dehydrated?

4. How will you treat Evaristo?

5. If your reassessment found that Evaristo had some dehydration, what would you have done before referral?

4.8 USING THIS MODULE IN YOUR CLINIC

How will you begin to apply the knowledge you have gained from this module in managing children with diarrhoea? In the coming days, you should focus on these key clinical skills. Practicing these skills in your clinic, and using your IMCI job aids, will allow you to observe and better understand the signs needed to assess and classify a child with dehydration and diarrhoea.

ASSESS

- ✓ Assess children for diarrhoea – how long has the diarrhoea lasted? Is there blood in the stool?
- ✓ Assess children for signs of dehydration, including sunken eyes, skin pinches, the child's condition, and the child's willingness and ability to drink.
- ✓ Practice giving children skin pinches and assessing if it returns very slowly, slowly, or immediately.
- ✓ Practice observing children's conditions (restless, irritable, unconscious, lethargic) and willingness to drink.

CLASSIFY

- ✓ Use your chart booklet to classify the signs of dehydration
- ✓ Classify if a child has persistent diarrhoea or dysentery

TREAT

- ✓ Determine if children need Plans A, B, or C.
- ✓ Determine how you will give Plan C in your facility – what equipment do you have for intravenous fluid? Is there a facility within a 30 minute drive that can give this fluid? Are you trained to use Naso-Gastric tubes for rehydration?
- ✓ Advise a caregiver on giving Plan B in your facility. Determine correct amount of ORS.
- ✓ Advise a caregiver about giving Plan A. Focus on the 4 rules of home treatment.

COUNSEL

- ✓ Teach a caregiver how to make and give ORS. Determine the amounts required.
- ✓ Advise a caregiver on giving extra fluid and continue breast feeding in the home.
- ✓ Advise a caregiver on giving zinc, and show them how to give tablets. Advise on how often zinc should be given.
- ✓ Advise a caregiver on continued feeding, especially for children with persistent diarrhoea.
- ✓ Counsel a caregiver about when to return for follow-up for diarrhoea or dehydration.
- ✓ Counsel a caregiver about when to return immediately.

Remember to use your logbook for MODULE 4:

- Complete logbook exercises, and bring completed to the next meeting
- Record cases on IMCI recording forms, and bring to the next meeting
- Take notes if you experience anything difficult, confusing, or interesting during these cases. These will be valuable notes to share with your study group and facilitator.

4.9 REVIEW QUESTIONS

AFTER THE MODULE: WHAT DO YOU KNOW NOW ABOUT MANAGING DIARRHOEA AND DEHYDRATION?

Before you began studying this module, you practiced your knowledge on with several questions. Now that you have finished the module, you will answer the same questions. This will help demonstrate what you have learned.

Circle the best answer for each question.

1. How can diarrhoea kill children?
 - a. Children lose valuable fluids, salts, and sugars, which can cause shock to vital organs
 - b. Children lose valuable nutrients because they cannot eat
 - c. Diarrhoea causes liver failure
2. What are critical treatments for children with diarrhoea and dehydration?
 - a. Oral antibiotics
 - b. Oral rehydration therapy and zinc
 - c. Paracetamol for discomfort
3. What is persistent diarrhoea?
 - a. When a child frequently has diarrhoea over a period of 1 month, and is ill as a result
 - b. When a child has several episodes of diarrhoea a day
 - c. When a child has an episode of diarrhoea lasting 14 days or more, which is particularly dangerous for dehydration and malnutrition
4. Critical messages for caregivers about diarrhoea and dehydration include:
 - a. The child must receive increased fluids, ORS, zinc, and regular feeding
 - b. The child requires ORS, but should receive less food in order to reduce the diarrhoea
 - c. The child should immediately receive antibiotics to stop the diarrhoea
5. Nidhi arrives at your clinic and is very lethargic. Her eyes are very sunken. She has diarrhoea. You observe a significant loss of skin elasticity. How will you manage Nidhi?
 - a. Nidhi requires ORS immediately, as she is dehydrated.
 - b. These are common signs of diarrhoea, as the child's body is exhausted.
 - c. Nidhi is severely dehydrated. She requires urgent rehydration therapy by IV or nasogastric tube.

Check your answers on the next page. How did you do? complete out of 5.

Did you miss questions?

Turn back to the section to re-read and practice the exercises.

4.10 ANSWER KEY

REVIEW QUESTIONS

QUESTION	ANSWER	Did you miss the question? Return to this section to read and practice:
1	A	INTRODUCTION
2	B	CLASSIFY, TREAT
3	C	CLASSIFY
4	A	TREAT, COUNSEL THE CAREGIVER
5	C	CLASSIFY, TREAT

EXERCISE A (MAYA)

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

Name: *Maya* Age: *25 mo* Weight (kg): *9 kg* Temperature (°C): *37 °C*
 Ask: What are the child's problems? *Diarrhoea* Initial Visit? Follow-up Visit?
ASSESS (Circle all signs present)

CLASSIFY

CHECK FOR GENERAL DANGER SIGNS <ul style="list-style-type: none"> NOT ABLE TO DRINK OR BREASTFEED VOMITS EVERYTHING CONVULSIONS LETHARGIC OR UNCONSCIOUS CONVULSING NOW 	General danger sign present? Yes ___ No <input checked="" type="checkbox"/> Remember to use Danger sign when selecting classifications
DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING?	Yes ___ No <input checked="" type="checkbox"/>
DOES THE CHILD HAVE DIARRHOEA? <ul style="list-style-type: none"> For how long? <i>4</i> Days Is there blood in the stool? <i>No</i> Look at the child's general condition. Is the child: <ul style="list-style-type: none"> Lethargic or unconscious? <i>No</i> Restless and irritable? <i>No</i> Look for sunken eyes. Offer the child fluid. Is the child: <ul style="list-style-type: none"> Not able to drink or drinking poorly? Drinking eagerly, thirsty? <i>Yes</i> Pinch the skin of the abdomen. Does it go back: <ul style="list-style-type: none"> Very slowly (longer than 2 seconds)? Slowly? 	Yes <input checked="" type="checkbox"/> No ___ <i>No visible dehydration</i>

EXERCISE B (RANA)

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

Name: *Rana* Age: *14 mo* Weight (kg): *12 kg* Temperature (°C): *37.5 °C*
 Ask: What are the child's problems? *Diarrhoea* Initial Visit? Follow-up Visit?
ASSESS (Circle all signs present)

CLASSIFY

CHECK FOR GENERAL DANGER SIGNS <ul style="list-style-type: none"> NOT ABLE TO DRINK OR BREASTFEED VOMITS EVERYTHING CONVULSIONS LETHARGIC OR UNCONSCIOUS CONVULSING NOW 	General danger sign present? Yes ___ No <input checked="" type="checkbox"/> Remember to use Danger sign when selecting classifications
DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING?	Yes ___ No <input checked="" type="checkbox"/>
DOES THE CHILD HAVE DIARRHOEA? <ul style="list-style-type: none"> For how long? <i>21</i> Days Is there blood in the stool? <i>No</i> Look at the child's general condition. Is the child: <ul style="list-style-type: none"> Lethargic or unconscious? <i>No</i> Restless and irritable? <i>Yes</i> Look for sunken eyes. Offer the child fluid. Is the child: <ul style="list-style-type: none"> Not able to drink or drinking poorly? Drinking eagerly, thirsty? <i>Yes</i> Pinch the skin of the abdomen. Does it go back: <ul style="list-style-type: none"> Very slowly (longer than 2 seconds)? Slowly? 	Yes <input checked="" type="checkbox"/> No ___ <i>Some dehydration</i>

EXERCISE C (CLASSIFY)

1. 2 SIGNS from any of the following – sunken eyes, restless/irritable, drinks eagerly/thirsty, and slow skin pinch (faster than 2 seconds, but not immediate).
2. 2 SIGNS from any of the following – lethargic/unconscious, sunken eyes, not able to drink/drinking poorly, very slow skin pinch (over 2 seconds)
3. Low osmolarity ORS.
4. Children with diarrhoea that do not require immediate referral – that is, children with diarrhoea and some or no dehydration. Children with persistent diarrhoea receive zinc for 14 days. Zinc supplements are a very important part of treating diarrhoea.
5. 4 rules of home treatment of diarrhoea:
 1. Give extra fluid – as much as the child will take
 2. Give zinc
 3. Continue feeding
 4. When to return (for a follow-up visit, or immediately if danger signs develop)

EXERCISE D (CLASSIFY)

3. PANO

<p>DOES THE CHILD HAVE DIARRHOEA?</p> <ul style="list-style-type: none"> • For how long? <u>5</u> Days • Is there blood in the stool? <u>No</u> 	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p style="text-align: center;"><i>Some dehydration</i></p>
<ul style="list-style-type: none"> • Look at the child's general condition. Is the child: <ul style="list-style-type: none"> ◦ Lethargic or unconscious? <u>No</u> ◦ Restless and irritable? <u>Yes</u> • Look for sunken eyes. • Offer the child fluid. Is the child: <ul style="list-style-type: none"> ◦ Not able to drink or drinking poorly? ◦ Drinking eagerly, thirsty? <u>Yes</u> • Pinch the skin of the abdomen. Does it go back: <ul style="list-style-type: none"> ◦ Very slowly (longer than 2 seconds)? ◦ Slowly? <u>Yes</u> 	

4. JANE

<p>DOES THE CHILD HAVE DIARRHOEA?</p> <ul style="list-style-type: none"> • For how long? <u>3</u> Days • Is there blood in the stool? <u>No</u> 	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p style="text-align: center;"><i>No dehydration</i></p>
<ul style="list-style-type: none"> • Look at the child's general condition. Is the child: <ul style="list-style-type: none"> ◦ Lethargic or unconscious? <u>No</u> ◦ Restless and irritable? <u>No</u> • Look for sunken eyes. • Offer the child fluid. Is the child: <ul style="list-style-type: none"> ◦ Not able to drink or drinking poorly? ◦ Drinking eagerly, thirsty? • Pinch the skin of the abdomen. Does it go back: <ul style="list-style-type: none"> ◦ Very slowly (longer than 2 seconds)? ◦ Slowly? 	

EXERCISE E (PLAN B)

1. Answers below:

Name	Age or Weight	Range of Amounts of ORS Solution
a. Andras	3 years	900–1400 ml
b. Gul	10 kg	750 ml or 700–900 ml
c. Nirveli	7.5 kg	562.5 ml or 400–700 ml
d. Sami	11 months	400–700 ml

2. Answers below:

- a. Vinita should be given **400–700ml of low osmolarity ORS solution** during the first **4 hours** of treatment. She should also be given 100–200 ml of clean water during this period.
- b. She should wait 10 minutes before giving more ORS solution. Then she should give Vinita the ORS solution more slowly.
- c. After Vinita is given ORS solution for 4 hours on Plan B
- d. Because Vinita has been reassessed as NO DEHYDRATION, she should be put on Plan A.
- e. 2 one-litre packets
- f. To continue treatment at home, the grandmother should give Vinita *50–100 ml* of ORS solution after each *loose stool*.

3. Answers below:

- a. 400–700 ml of ORS solution
- b. Yes, Yasmin should breastfeed whenever and as much as she wants.
- c. Because Yasmin is still classified as SOME DEHYDRATION, she should continue on Plan B.

EXERCISE F (PLAN A)

1. Answers will vary

2. Some answers:

- a. Give extra fluid, Give zinc, Continue feeding, Advise when to return
- b. ORS solution, food-based fluids (such as soup, rice water, yoghurt drinks), clean water

3. The health worker should tell Kasit’s mother to breastfeed him more frequently than usual. The health worker should also tell the mother that after breastfeeding, she should give Kasit ORS solution or clean water.

4. Children who have been treated with Plan B or Plan C during the visit, or children who cannot return to a clinic if the diarrhoea gets worse.

5. Answers below:

Name Age Amount of extra fluid to give after each loose stool

	Name	Age	Amount of extra fluid to give after each loose stool
a.	Kala	6 months	500–100 ml
b.	Sam	2 years	100–200 ml
c.	Kara	15 months	50–100 ml
d.	Lalita	4 years	100–200 ml

EXERCISE G (TREAT)

1. 10 mg (1/2 of a 20 mg tablet) once each day for 14 days. Tablet should be crushed and dissolved in breast milk, ORS, or clean water. It is important to give zinc for all 14 days.
2. 20 mg tablet given once each day for 14 days. Tablets can be chewed or dissolved in fluid. It is important to give zinc for all 14 days.
3. Give 1ml ciprofloxacin (250 mg/5 ml) 2 times a day for 3 days
4. Give 3ml ciprofloxacin (250 mg/5 ml) 2 times a day for 3 days
5. Start treatment for dehydration, give Vitamin A dose, teach mother to give frequent sips of ORS on the way, give other urgent pre-referral treatment as other classifications require, and refer URGENTLY.
6. Correct answers are A, B, D, E

EXERCISE H (CASE STUDY COUNSEL)

1. Rules are:
 - a. GIVE EXTRA FLUID: Explain what extra fluids to give. Since the child is being treated with Plan B during this visit, the mother should give ORS at home. Explain how much ORS solution to give after each loose stool.
 - b. CONTINUE FEEDING: Instruct her how to continue feeding during and after diarrhoea.
 - c. GIVE ZINC: explain dosing and schedule for 14 days of zinc, how to give, why it is given
 - d. WHEN TO RETURN: Teach her the signs to bring a child back immediately.
2. How to mix ORS into water. He did not include what containers to use, what ratio of packets and water, how to give the ORS to her child, or instructions for frequency of treatment.
3. YES
4. NO
5. WITH A YES/NO QUESTION ("DO YOU UNDERSTAND?"). THIS IS NOT A CHECKING QUESTION.
6. NO. THE QUESTION DOES NOT SHOW IF THE CAREGIVER LEARNED.
7. CHECKING QUESTION –for example "How will you prepare the ORS for your child?"

EXERCISE I (CASE STUDY COUNSEL)

1. All five answers should be checked.
2. Aviva answers:
 - a. YES, 2 PACKETS
 - b. The mother should wait 10 minutes before giving more fluid. Then she should give the solution more slowly.
 - c. Aviva's mother should continue giving extra fluid until the diarrhoea stops
 - d. Drinking poorly or not able to drink or breastfeed, Becomes sicker, Develops a fever, Blood in stool
3. Only C "How much fluid will you give your child?" is a good checking question

EXERCISE J (EVARISTO FOLLOW-UP)

1. Ask: Has Evaristo's diarrhoea stopped? How many loose stools is he having per day?
2. Reassess Evaristo completely as described on the ASSESS & CLASSIFY chart. Treat any problems that require immediate attention. Then refer him to hospital.
3. NO
4. Refer him to a hospital. He does not need any treatments before he leaves.
5. Rehydrate him according to Plan B before referral.

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