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## **UNIT 3 INTEGRATED MANAGEMENT OF NEONATAL AND CHILDHOOD ILLNESS**

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### **3.0 INTRODUCTION**

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Every year many children die before their fifth birthday in developing countries of the world. A large number of deaths can be prevented by early identification and timely care. For early identification and prompt care, you as a Mid Level

Health Care Provider must learn to assess, classify & treat various infections/ illnesses that are common among young infants and children so that you are able to assess, identify, classify and treat these illnesses. Hence, this unit presents the IMNCI approach for Assessment, Classification, Identification and Treatment of illnesses in Sick Young Infant and young child. While going through the Unit, you will appreciate the various guidelines for identifying and treating common illness of young infant and child in the community.

### 3.1 OBJECTIVES

After completing this unit, you should be able to:

- assess various signs and symptoms in young infant and child;
- classify illness in a sick young infant and child based on signs and symptoms;
- identify treatment for various problems in young infant and child; and
- treat Young Infant and Child.

### 3.2 ASSESS AND CLASSIFY THE SICK YOUNG INFANT

Assessment involves “asking”, “looking at”, “listening” and “feeling (using your hands)” to identify sickness of the young infant. All these skills of asking, looking and feeling will help you to assess the problems of young infant. You have to record the assessment in the recording sheet.

You should start assessment by asking questions to collect the information related to name, age, record weight and temperature of the young infant.

Ask the mother about the problems that the young infant is having. Ask if she has brought the infant to the clinic for the first time, that means is it her initial visit or follow-up visit? If it is follow-up visit then you have to reassess the problem of the infant for which he has been treated earlier.

Let us now start by discussing the various common illness which need to assessed and identified in the sick young infant.

#### 3.2.1 Assess and Classify Possible Bacterial Infection

##### Assess Possible Bacterial Infection

You have to assess the young infant for Possible Bacterial Infection as given in Table 3.1 below:

**Table 3.1 : Assessment of Young Infant for Possible Bacterial Infection**

Ask	Look, Listen & Feel:
Has the infant had convulsions?	<ul style="list-style-type: none"> <li>• Count the breaths in one minute Repeat the count if elevated.</li> <li>• Look for severe chest indrawing.</li> <li>• Look for nasal flaring.</li> <li>• Look and listen for grunting.</li> <li>• Look and feel for bulging fontanel.</li> </ul> <div style="float: right; width: 100px; text-align: center;"> <p>Young infant must be calm</p> </div>

- Look for pus draining from the ear.
- Look at the umbilicus. Is it red or draining pus?·
- Look for skin pustules. Are there 10 or more skin pustules (Fig 3.1).
- Measure axillary temperature (if not possible feel for fever or low body temperature). (Fig 3.2)
- See if the young infant is lethargic or unconscious.
- Look at the young infant's movements. Are they less than normal?
- Look for Jaundice. Are the palms & soles yellow?



Fig. 3.1 : Skin Pustules



Fig. 3.2: Checking temperature through axillary route

### Classify Possible Bacterial Infection

Once you have assessed the sick young infant, you have to classify the young infant for Possible Serious Bacterial Infection and Local Bacterial Infection according to signs and symptoms given below in Table 3.2.

**Table 3.2: Classification of Possible Bacterial Infection**

Signs	Classify as
<ul style="list-style-type: none"> <li>• Convulsions or</li> <li>• Fast breathing (60 breaths per minutes or more) or</li> <li>• Severe chest indrawing or</li> <li>• Nasal flaring or</li> <li>• Grunting or</li> <li>• Bulging Fontanel or</li> <li>• 10 or more skin pustules or a big boil or</li> <li>• If axillary temperature 37.5°C or above (or feels hot to touch) or temperature less than 33.5°C (or feels cold to touch) or</li> <li>• Lethargic or unconscious or</li> <li>• Look at the young infnat's movements Are they less than normal movements?</li> <li>• Look for Jaundice. Are the palms and soles yellow?</li> </ul>	<p><b>POSSIBLE SERIOUS BACTERIAL INFECTION</b></p>
<ul style="list-style-type: none"> <li>• Umbilicus red or draining pus or</li> <li>• Pus draining from the ear or</li> <li>• Skin pustules less than 10</li> </ul>	<p><b>LOCAL BACTERIAL INFECTION</b></p>

Table 3.2 shows that there are two classifications for possible bacterial infections, i.e., **Possible Serious Bacterial Infection**, and **Local Bacterial Infection**.

**Possible Serious Bacterial Infection**

You can classify a young infant as having Possible Serious Bacterial Infection, if he/she has anyone or more than one sign listed in red/pink row of Table 3.2. A young infant with any one or more than one sign in this column may have a serious disease and may be at a high risk of dying. The infant may have Pneumonia, Sepsis or Meningitis. It is difficult to distinguish among these infections in young infants and therefore only one classification is given.

**Local Bacterial Infection**

You can classify young infant as having Local Bacterial Infection if he/she has anyone of the following two signs:

- Red umbilicus or draining pus, or
- Pus draning from ear or
- Skin pustules less than 10.

**3.2.2 Assess and Classify Jaundice**

After going through the possible serious and local bacterial infection and their signs, let us now discuss about jaundice in detail.

**Assess Jaundice**

In addition if the sick young infant has Jaundice, assess for the same by inspecting the palms and soles for yellowish colouration.

### Classify Jaundice (in the Manner given below as per Table 3.3 and 3.4)

A sick young infant can have two possible classifications for Jaundice as follows:

**Table 3.3: Assessment of Severe Jaundice in sick young infant**

Yellow palms and soles or Age <24 hours or Age 14 days or more	<b>Severe Jaundice</b>
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**Table 3.4: Assessment of Jaundice in Sick young infant**

Palms and soles not yellow and Age 1-13 days Temperature between 35.5-36.4°C	<b>Jaundice</b>  Low Body Temperature
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### 3.2.3 Assess and Classify Diarrhoea

#### Assess Diarrhoea

After you have checked the young infant for possible bacterial infection and jaundice, assess the young infant for diarrhoea as given in Table 3.5.

**Table 3.5: Assessment of Diarrhoea**

If Yes,	Look & Feel:
<b>ASK:</b> <ul style="list-style-type: none"> <li>• For how long? _____ days</li> <li>• Is there blood in the stool?</li> </ul>	<ul style="list-style-type: none"> <li>• Look at the young infant's general condition. Is the infant:               <ul style="list-style-type: none"> <li>• Lethargic or unconscious?</li> <li>• Restless and irritable?</li> </ul> </li> <li>• Look for sunken eyes</li> <li>• Pinch the skin of the abdomen (Fig. 3.3). Does it go back               <ul style="list-style-type: none"> <li>• Very slowly (longer than 2 seconds)?</li> <li>• Slowly?</li> </ul> </li> </ul>
<b>THEN ASK: DOES THE YOUNG INFANT HAVE DIARRHOEA?*</b>	
<b>*What is diarrhoea in a young infant?</b> If the stools have changed from usual pattern and are many and watery. The normally frequent or loose stools of a breastfed baby are not diarrhoea	



**Fig. 3.3: Skin Pinch to assess dehydration**

Diarrhoea in young infant is present if the stools have changed from usual pattern and are many and watery (more water than fecal matter). The breastfed babies normally have frequent loose stools but are not watery. This is not diarrhoea.

**Classify Diarrhoea**

Once you have assessed the young infant for diarrhoea, you have to classify dehydration and dysentery as given in Table 3.6.

**Table 3.6: Classification of Diarrhoea**

Signs	Classify As
Two of the following signs: <ul style="list-style-type: none"> <li>• Lethargic or unconscious</li> <li>• Sunken eyes</li> <li>• Skin pinch goes back very slowly.</li> </ul>	SEVERE DEHYDRATION
Two of the following signs: <ul style="list-style-type: none"> <li>• Restless, irritable</li> <li>• Sunken eyes</li> <li>• Skin pinch goes back slowly</li> </ul>	SOME DEHYDRATION
<ul style="list-style-type: none"> <li>• Not enough signs to classify as some or severe dehydration.</li> </ul>	NO DEHYDRATION
<ul style="list-style-type: none"> <li>• Diarrhoea lasting 14 days or more</li> </ul>	SEVERE PERSISTENT DIARRHOEA
<ul style="list-style-type: none"> <li>• Blood in the stool</li> </ul>	SEVERE DYSENTRY

**Severe Dehydration**

If the infant shows any two of the following signs, then sick young infant is classified as having Severe Dehydration:

- Lethargic or unconscious
- Sunken eyes
- Skin pinch goes back very slowly

**Some Dehydration**

If the infant has any two of the following signs then sick young infant is classified as having some Dehydration:

- Restless, irritable
- Sunken eyes
- Skin pinch goes back slowly

**No Dehydration**

If an infant is not showing enough signs to classify as severe or some dehydration, then classify the sick young infant as having No Dehydration.

Compare the signs that you have identified in young infant with the signs listed in each row and choose the classification.

### Severe Persistent Diarrhoea

We also classify young infant based on duration of diarrhoea

**Persistent diarrhoea** is an episode of diarrhoea lasting for more than 14 days with or without blood. All young infants with diarrhoea should also be assessed for severe persistent diarrhoea. All young infants with severe persistent diarrhoea should be referred to the hospital. One rule that we need to keep in mind is that treatment of dehydration can be initiated first, unless there is another severe classification.

### Severe Dysentery

If infant is passing stool with blood then child is classified as having Severe Dysentery.

### 3.2.4 Assess Feeding Problems and Malnutrition

You should check sick young infant for feeding problems also. In order to assess the feeding problem you have to **ask** mother following **questions** listed on the left side of the Table 3.7.

**Table 3.7: Assessment for Feeding Problem**

CHECK FOR FEEDING PROBLEM AND MALNUTRITION	
<ul style="list-style-type: none"> <li>• Is there Any difficulty feeding? Yes, _____, No _____</li> <li>• Is the infant breastfed?</li> <li>• How many times in 24 hours? _____ times</li> <li>• Does the infant usually receive any other foods or drinks?  Yes _____ No _____  If yes, how often?</li> <li>• What do you use to feed the infant?</li> <li>• Does the mother have pain while breastfeeding?</li> </ul>	<p><b>LOOK &amp; FEEL:</b></p> <p><b>ASSESS BREASTFEEDING IF THERE IS ANY DIFFICULTY IN FEEDING</b> (feeding less than 8 times in 24 hours, taking any other food or drink or infant is low weight for age) and has <b>NO INDICATION FOR URGENT REFERRAL.</b></p> <p>Ask the mother to put her Infant to the breast. Observe the breastfeed for 4 minutes.</p> <ul style="list-style-type: none"> <li>• Is the infant able to attach well?  <i>no attachment at all, not well attached, good attachment</i></li> </ul> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p><b>TO CHECK ATTACHMENT, LOOK FOR</b></p> <ul style="list-style-type: none"> <li>• Chin touching breast Yes _____ No _____</li> <li>• Mouth wide open Yes _____ No _____</li> <li>• Lower lip turned outward Yes _____ No _____</li> <li>• More areola visible above than below the mouth Yes No _____ No _____</li> </ul> <p>(All these signs should be present if the attachment is good)</p> </div> <ul style="list-style-type: none"> <li>• Is the infant suckling effectively (i.e., slow deep sucks, sometimes pausing)?  <i>not suckling at all</i> <i>not suckling effectively, suckling effectively</i> Clear a blocked nose if it interferes with breastfeeding.</li> <li>• Look for ulcers or white patches in the mouth (thrush).</li> <li>• If yes, look and feel for:               <ul style="list-style-type: none"> <li>• Sore nipples</li> <li>• Engorged breasts or breast abscess</li> </ul> </li> </ul>

As you have seen in Table 3.7 that there are **four** questions which will help you to assess feeding problems. These are as follows:

### Assess Breastfeeding

You have to first decide whether to assess the infant's breastfeeding or not.

- If the infant is not breastfed at all, do not assess breastfeeding
- If the infant has a serious problem requiring urgent referral to a hospital, do not assess breastfeeding.

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

If the mother has not fed the infant in previous hour then ask her to put her infant to breast. Observe whole breastfeeding if possible, or observe for atleast for 4 minutes.

*LOOK: if the infant is able to attach*

While observing the infant for **good attachment** (Fig. 3.4), you should look for following four signs:

- Chin touching breast (or very close)
- Mouth wide open
- Lower lip turned outward
- More areola visible above than below the mouth.



**Infant Well Attached**

**Infant not Well Attached**

**Fig. 3.4: Attachment**

If all of these four signs are present, the infant has **good attachment**. If attachment is not good, you may see the following signs:

- Chin is **not** touching breast,
- Mouth is **not** wide open, lips are pushed forward,
- Lower **lip** is turned in, or
- **More areola** (or equal amount) **visible below** infant's mouth.

Record your assessment/observation in Recording Form/Sheet by encircling the sign present- **no attachment at all, not well attached or good attachment**.

*Now LOOK:* if the infant is suckling effectively i.e. slow deep sucks, sometimes pausing

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

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

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

You may at times observe that in spite of **good positioning** and **good attachment** the infant is not suckling at all or not **able to suck** breast milk into his mouth. This means that the infant is **not able to breastfeed** at all. In such a case check the nose, and clean it, if blocked.

### Classify Feeding Problems

The following Table 3.8 explains how to classify the feeding problems.

**Table 3.8: Classify for Feeding Problems**

Signs	Classify As
<ul style="list-style-type: none"> <li>• Not able to feed or</li> <li>• No attachment at all or</li> <li>• Not sucking at all or</li> <li>• Very low weight for age</li> </ul>	NOT ABLE TO FEED - POSSIBLE SERIOUS BACTERIAL INFECTION or SEVERE MALNUTRITION
<ul style="list-style-type: none"> <li>• Not well attached to breast or Not sucking effectively or</li> <li>• Less than 8 breast feeds in 24 hours or</li> <li>• Receives other foods or drinks or</li> <li>• Thrush (ulcers or white patches in mouth) or</li> <li>• Low weight for age or</li> <li>• Breast or nipple problems</li> </ul>	FEEDING PROBLEM OR LOW WEIGHT
<ul style="list-style-type: none"> <li>• Not other signs of inadequate feeding</li> </ul>	NO FEEDING PROBLEM

Table 3.8 shows that there are three possible classifications of feeding problems as given below:

#### Not Able to Feed - Possible Serious Bacterial Infection

If the infant is not able to feed or not attached at all, or not suckling at all, the infant may be classified as having **Not Able to Feed - Possible Serious Bacterial Infection**.

### Feeding Problem

When the infant is not well attached or not suckling effectively or is receiving breastfeed less than 8 times in 24 hours, or is receiving other foods or drinks, or is having nose block, thrush (ulcers or white patches in the mouth), or there is nipple or breast problem, then the infant is having some feeding problem. Classify the infant as having Feeding Problem.

### No Feeding Problem

If a young infant has no other sign of inadequate feeding. This infant is classified as having No Feeding Problem. Praise the mother for feeding the infant well when infant is not showing any sign of inadequate feeding.

### 3.2.5 Assess Immunization Status

If any immunization is due, advise the mother to get the infant immunized at the earliest. The information on immunization status of an infant is best obtained from the Immunization Card.

When the Immunization Card is not available, ask mother about the immunisation of the infant as per Table 3.9.

**Table 3.9: Assessment of Immunization Status**

THEN CHECK THE YOUNG INFANT’S IMMUNISATION STATUS		
Immunization Schedule:	Age	Vaccine
	Birth	BCG OPV-0
	6 Weeks	DPT-1, OPV-1+, Hepatitis B-1*

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

This shows that a young infant should have one dose of BCG at birth. Two doses of OPV (OPV-0 and OPV-1) and one dose of DPT-1 and Hepatitis B-1 are given at the age 6 weeks.

Refer immunization in log book

#### Check Your Progress 1

i) List the signs you will look for possible bacterial infection in a young infant?

.....  
 .....  
 .....

ii) How many doses of DPT, Pentavalant. OPV and Hepatitis-B vaccine should be given to the young infant (birth up to 2 months)?

.....  
 .....  
 .....  
 .....

### 3.2.6 Assess Other Problems

Assess other problems mentioned by mother or observed by you, if you think that infant has severe problem or you don't know how to treat the condition, refer immediately.

Thus, in the above subsections you learnt about assessment and classification of various problems in sick young infant. Let us now proceed to identification and treatment of these problems in the sick young infant.

## 3.3 IDENTIFY TREATMENT AND TREAT THE SICK YOUNG INFANT

Treatment of the sick young infant is based on identifying treatment for each classification. The “Identify Treatment” column in the chart will help you to decide whether the infant needs referral, treatment with medicines or home care and lists the treatments for all the classifications that the young infant has. If sick young infant has more than one classification, you should strike out wherever there are duplicate instructions in “Identify Treatment” column. For example, if the young infant has a Possible Serious Bacterial Infection i.e. classification in red box and also has another severe classification such as Severe Dehydration, strike out **Refer URGENTLY to hospital** from the treatments listed in one of the two boxes of “Identify Treatment” column.

- If sick young infant has classification in RED Box, he/she should be referred to hospital after giving appropriate pre-referral treatments listed in the “Identify Treatment” column.
- If sick young infant has classification in YELLOW Box, he/she should be provided all the treatments listed in the “Identify Treatment” column.
- If a sick young infant has classification in GREEN Box, the mother of the infant should be advised to give home care.
- If a sick young infant has more than one classification, treatment required for all classifications must be identified.

### 3.3.1 Identify Treatment for Possible Bacterial Infection

Refer Table 3.10 below to identify the treatment of the sick young infant and determine if the young infant needs urgent referral.

**Table 3.10 : Identify treatment for Possible Bacterial Infection**

Signs	Classify as	Identify Treatment
<ul style="list-style-type: none"> <li>• Convulsions or</li> <li>• Fast breathing (60 breaths per-minute or more) or</li> <li>• Severe chest indrawing or</li> <li>• Nasal flaring or</li> <li>• Grunting or</li> <li>• Bulging Fontanel or</li> </ul>	Possible Serious Bacterial Infection	<ul style="list-style-type: none"> <li>• Give first dose of intramuscular ampicillin (100 mg/kg) and gentamycin (3 mg/kg)</li> <li>• Treat to prevent low blood sugar</li> <li>• Warm the young infant by skin to skin contact if temperature is less than 36.3°C (or feels cold to touch) while arranging referral</li> </ul>

<ul style="list-style-type: none"> <li>• 10 or more skin pustules or a big boil or</li> <li>• If axillary temperature 37.5°C or above (or feels hot to touch) or temperature less than 33.5°C (or feels cold to touch) or</li> <li>• Lethargic or unconscious or</li> <li>• Look at the young infants' movements. Are they less than normal movements?</li> <li>• Look for Jaundice. Are the palms and soles yellow?</li> </ul>		<ul style="list-style-type: none"> <li>• Advise mother to keep the young infant warm on the way to the hospital.</li> <li>• Refer urgently to the hospital</li> </ul>
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Signs	Classify as	Identify Treatment
<ul style="list-style-type: none"> <li>• Umbilicus red or draining pus or</li> <li>• Pus draining from the ear or</li> <li>• Skin pustules less than 10</li> </ul>	Local Bacterial Infection	<ul style="list-style-type: none"> <li>• Give oral cotrimoxazole or amoxicillin for 3 days (1/2 paediatric tablet twice daily for an infant up to 1 month and 1 tablet for an infant of 1-2 months)</li> <li>• Teach mother to apply 0.3% Gention Violet paint twice daily.</li> <li>• Follow-up in 2 days.</li> </ul>
<ul style="list-style-type: none"> <li>• Yellow palms and soles or</li> <li>• Age &lt;24 hours or</li> <li>• Age 14 days or more</li> </ul>	Severe Jaundice	<ul style="list-style-type: none"> <li>• Treat to prevent low blood sugar</li> <li>• Warm the infant by skin to skin contact if temperature is less than 36.3°C (or feel cold to touch)</li> <li>• Refer urgently to the hospital.</li> </ul>
<ul style="list-style-type: none"> <li>• Palms and soles not yellow and</li> <li>• Age 1-13 days</li> </ul>	Jaundice	<ul style="list-style-type: none"> <li>• Advise mother to give home care for the young infant</li> <li>• Advise mother when to return immediately</li> <li>• Follow up in 2 days.</li> </ul>
<ul style="list-style-type: none"> <li>• Temperature between 33.5 to 36.4° C</li> <li>• Umbilicus red or draining pus or</li> <li>• Pus draining from the ear or</li> </ul>	Low Body Temperature	<ul style="list-style-type: none"> <li>• Warm the young infant using skin to skin contact for one hour and REASSESS</li> <li>• Treat to prevent low blood sugar.</li> </ul>

### Possible Serious Bacterial Infection

You have seen in Table 3.10, that a young infant classified as having POSSIBLE SERIOUS BACTERIAL INFECTION (the classification in Red Box) needs urgent referral. You should refer the infant without delay and give urgent pre-referral treatment.

You have to give first dose of intramuscular antibiotics or oral antibiotic such as cotrimoxazole if injectible antibiotics are not available. Ensure that the baby is kept warm on the way to hospital. Prevent hypoglycemia with breast milk/animal milk with added sugar/sugar water.

Remember all infants with severe classification are to be referred to the hospital after completing the assessment and administration of necessary pre-referral treatment.

### Local Bacterial Infection

If the young infant is classified as having LOCAL BACTERIAL INFECTION, i.e. classification in Yellow Box (umbilical infection, skin pustules <10), you have to treat the infant by giving full course of cotrimoxazole at home. The recommended dose of cotrimoxazole according to age and weight is given in Table 3.14.

**Treat young infant for jaundice and low body temperature as per Table 3.10**

### 3.3.2 Identify Treatment for Diarrhoea

Identifying Treatment of diarrhoea, dehydration and dysentery is as per guidelines given in Table 3.11.

**Table 3.11 : Identify Treatment for Diarrhoea**

Signs	Classify as	Identify Treatment
Two of the following signs: <ul style="list-style-type: none"> <li>• Lethargic or unconscious</li> <li>• Sunken eyes</li> <li>• Skin pinch goes back very slowly.</li> </ul>	Severe Dehydration	If the young infant has low weight, dehydration or another severe classification <ul style="list-style-type: none"> <li>• Give first dose of intramuscular ampicillin (100 mg/kg) and gentamycin (3 mg/kg) if the young infant has low weight, dehydration or another severe classification</li> <li>• Advise mother to continue breast-feeding and how to keep the young infant warm on the way to the hospital.</li> <li>• Refer urgently to the hospital with mother giving frequent sips of ORS on the way. <b>OR</b></li> </ul> If infant does not have low weight or any other severe classification. <ul style="list-style-type: none"> <li>• Give fluid for severe dehydration (Plan C)</li> <li>• As per IMNCI guidelines and then refer to hospital after rehydration.</li> <li>• If infant does not have low weight or any other severe classification:               <ul style="list-style-type: none"> <li>• Give fluid for severe dehydration (Plan C) and then refer to hospital after rehydration</li> </ul> </li> </ul>
Two of the following signs: <ul style="list-style-type: none"> <li>• Restless, irritable</li> <li>• Sunken eyes</li> <li>• Skin pinch goes back slowly</li> </ul>	Some Dehydration	If the young infant has low weight, dehydration or another severe classification: <ul style="list-style-type: none"> <li>• Give first dose of intramuscular ampicillin (100 mg/kg) and gentamycin (5 mg/kg) if the young infant has low weight, dehydration or another severe classification</li> <li>• Advise mother to continue breast-feeding and how to keep the young infant warm on the way to the hospital.</li> <li>• Refer urgently to the hospital with mother giving frequent sips of ORS on the way.</li> </ul>

Signs	Classify as	Identify Treatment
<ul style="list-style-type: none"> <li>Not enough signs to classify as some or severe dehydration.</li> </ul>	No Dehydration	<ul style="list-style-type: none"> <li>Give fluid to treat diarrhoea at home (Plan A)</li> <li>Advise home care</li> <li>Follow up in 2 days if not improving.</li> </ul>
<ul style="list-style-type: none"> <li>Diarrhoea lasting 14 days or more</li> </ul>	Severe Persistent Diarrhoea	<ul style="list-style-type: none"> <li>Give first dose of intramuscular ampicillin (100 mg/kg) and gentamycin (5 mg/kg) if the young infant has low weight, dehydration or another severe classification</li> <li>Treat to prevent low blood sugar</li> <li>Warm the young infant by skin to skin contact if temperature is less than 36.5°C (or feels cold to touch) while arranging referral. Advise mother to keep the young infant warm on the way to the hospital.</li> <li>Refer URGENTLY to the hospital.</li> </ul>
<ul style="list-style-type: none"> <li>Blood in the stool</li> </ul>	Severe Dysentery	<ul style="list-style-type: none"> <li>Give first dose of intramuscular ampicillin (100 mg/kg) and gentamycin (5 mg/kg) if the young infant has low weight, dehydration or another severe classification.</li> <li>Treat to prevent low blood sugar.</li> <li>Warm the young infant by skin to skin contact if temperature is less than 36.5°C (or feels cold to touch) while arranging referral.</li> <li>Advise mother to keep the young infant warm on the way to the hospital.</li> <li>Refer URGENTLY to the hospital.</li> </ul>

### 3.3.3 Identify Treatment for Feeding Problems

Treatment of feeding problems is given in Table 3.12.

As per Table 3.12, a young infant classified as having **Not Able to Feed- Possible Serious Bacterial Infection** (classification in Red Box) needs urgent referral. You should refer urgently and advise mother to give skin to skin contact if he/she feels cold to touch.

#### Feeding Problem

If the young infant has been classified as having feeding problem, you should teach the mother correct positioning and attachment (Refer Table 3.12 for details).

**Also advise the mother to take care of baby and follow up in two days.**

#### No Feeding Problem

If the young infant has been classified as having no feeding problem, advise the mother to care for her baby and help her practice feeding her infant well.

**Table 3.12 : Identify Treatment for Feeding Problems**

Signs	Classify as	Identify Treatment
<ul style="list-style-type: none"> <li>• Not able to feed or</li> <li>• No attachment at all or</li> <li>• Not sucking at all or</li> <li>• Very low weight for age</li> </ul>	<p>NOT ABLE TO FEED - POSSIBLE SERIOUS BACTERIAL INFECTION or LOW WEIGHT FOR AGE</p>	<ul style="list-style-type: none"> <li>• Give first dose of intramuscular ampicillin (100 mg/kg) and gentamycin (5 mg/kg) if the young infant has low weight, dehydration or another severe classification.</li> <li>• Treat to prevent low blood sugar</li> <li>• Advise mother to continue breast-feeding and how to keep the young infant warm on the way to the hospital.</li> <li>• Refer urgently to the hospital</li> </ul>
<ul style="list-style-type: none"> <li>• Not well attached to breast or Not sucking effectively or</li> <li>• Less than 8 breast feeds in 24 hours or</li> <li>• Receives other foods or drinks or</li> <li>• Thrush (ulcers or white patches in mouth) or</li> <li>• Low weight for age or</li> <li>• Breast or nipple problems</li> </ul>	<p>FEEDING PROBLEM OR LOW WEIGHT</p>	<ul style="list-style-type: none"> <li>• If not well attached or not sucking effectively, teach correct positioning and attachment</li> <li>• If breastfeeding less than 8 times in 24 hours, advise to increase frequency of feeding</li> <li>• If receiving other foods or drinks counsel mother about breastfeeding more, reducing other foods or drinks and using a cup and spoon.</li> <li>• If thrush, teach the mother to apply 0.25% Gention Violet paint twice daily</li> <li>• If breast or nipple problem teach the mother to treat breast or nipple problems</li> <li>• Advise mother to give home care (Breastfeed infant exclusively, keep infant warm, apply nothing to cord, ask mother to wash hands and explain danger signs in the infant)</li> <li>• Follow-up in 2 days in case of any feeding problem or thrush</li> <li>• Follow up in 14 days in case of low weight for age.</li> </ul>
<ul style="list-style-type: none"> <li>• Not other signs of inadequate feeding</li> </ul>	<p>NO FEEDING PROBLEM</p>	<ul style="list-style-type: none"> <li>• Advise mother to give home care</li> <li>• Praise the mother for feeding the infant well</li> <li>• Advise mother when to return immediately.</li> </ul>

### 3.3.4 Treat the Sick Young Infant

You may have to give one or more of the following treatments before the young infant is sent to the hospital.

- Antibiotics

- Breast milk or sugar water
- Warm the sick young infant with low body temperature by skin to skin contact and keep the young infant warm on the way to the hospital.

When giving intramuscular antibiotics:

- Explain to the mother why the drug is given.
- Determine the dose of gentamicin and ampicillin.
- Use a sterile needle and sterile syringe.
- Measure the dose accurately.
- Give the drug as intramuscular injection.

1) **Giving Antibiotics**

If you identify/classify a young infant as having possible serious bacterial infection, you have to give the first dose of two intramuscular antibiotics such as ampicillin and gentamicin to young infants with POSSIBLE SERIOUS BACTERIAL INFECTION. Young infants with POSSIBLE SERIOUS BACTERIAL INFECTION are often infected with a broader range of bacteria than older infants and children. The combination of gentamicin and ampicillin is effective against this broader range of bacteria. See Table 3.13 for intramuscular antibiotics.

- Give first dose of intramuscular antibiotics.
- Give first dose of both ampicillin and gentamicin intramuscularly.

**Table 3.13: Intramuscular Antibiotics**

<b>GENTAMICIN</b> Dose: 3 mg per kg		<b>AMPICILLIN</b> Dose: 100 mg per kg (Vial of 500 mg mixed with 2.5 ml of sterile water for injection to give 200 mg/1 ml)
Weight	Undiluted 2 ml vial containing 20 mg = 2 ml at 10 mg/ml OR Add 6 ml sterile water to 2 ml containing 80 mg* = 8 ml at 10 mg/ml	
1 kg	0.5ml*	0.5ml
2 kg	1.0 ml*	1.0ml
3 kg	1.5 ml*	1.5ml
4 kg	2.0ml*	2.0ml
5 kg	2.5ml*	2.5ml

\*Avoid using undiluted 40 mg/ml gentamicin\* Ampicillin and gentamicin not to be mixed. Referral is the best option for a young infant with classification of POSSIBLE SERIOUS BACTERIAL INFECTION. If referral is not possible give oral amoxycillin every 8 hourly and intramuscular gentamicin once daily.

**Remember:**

These drugs have to be given on advice and prescription of a doctor.

### Using Gentamicin

Before giving gentamicin intramuscularly you must read the vial of gentamicin to determine its strength. Check whether it should be used undiluted or diluted with sterile water. When ready to use, the strength should be 10 mg/ml.

**Choose the dose of the antibiotics from the row of the table, which is closest to the infants weight.**

### Using Ampicillin

Before giving ampicillin intramuscularly you have to mix it with sterile water. You must read the vial of ampicillin to determine its strength and then mix with sterile water. Mix a vial of 500 mg powder in 2.5 ml of sterile water to give 200 mg/ml ampicillin.

**If you have a vial with a different amount of gentamicin or ampicillin or if you use a different amount of sterile water than described here, the dosage table on the TREAT THE YOUNG INFANT AND COUNSEL THE MOTHER chart will not be correct. In that situation, carefully follow the manufacturer's directions for adding water and recalculate the doses.**

#### 2) Treat the young infant to prevent low blood sugar

a) If the infant is able to breastfeed:

- Ask the mother to breastfeed the infant.

b) If the infant is not able to breastfeed but is able to swallow:

- Give 20–50 ml (10 ml/kg) expressed breastmilk or locally appropriate animal milk (with added sugar) before departure. If neither of these is available, give 20–50 ml. (10 ml/kg) sugar water.
- To make sugar water: dissolve 4 level teaspoons of sugar (20 grams) in a 200 ml cup of clean water.

c) If the infant is not able to swallow:

- Give 20–50 ml (10 ml/kg) of expressed breastmilk or locally appropriate animal milk (with added sugar) or sugar water by nasogastric tube.

d) If the infant cannot swallow and you know how to use a nasogastric (NG) tube, give him 10 ml/kg of milk (expressed breastmilk or dairy/locally appropriate animal milk) or sugar water by NG tube.

#### 3) Warm the young infant skin to skin (kangaroo mother care)

- Provide privacy to the mother. If mother is not available, skin to skin contact may be provided by the father or any other adult.
- Request the mother to sit or recline comfortably.
- Undress the baby gently, except for cap, nappy and socks.

- Place the baby prone on mother's chest in an upright and extended posture between her breast, in skin to skin contact.
- Turn baby's head to one side to keep airways clear.
- Cover the baby with mother's blouse, 'pallu' or gown; wrap the baby-mother duo with an added blanket or shawl.
- Breastfeed the baby frequently.
- If possible, warm the room ( $>25^{\circ}\text{C}$ ) with a heating device, like electrical room heater or angeethi.

If mother is not available, skin to skin contact may be provided by the father or any other adult. Skin to skin contact is the most practical, preferred method of warming a hypothermic young infant in a primary health care facility. If not possible, dress and wrap the young infant ensuring that head, hands and feet are also well covered. Hold the young infant close to the caregiver's body, in a room warmed by a heating device to a temperature of  $30-33^{\circ}\text{C}$ . Alternatively, if an overhead radiant warmer is available, place the baby under the warmer.

- **REASSESS after 1 hour**

- Look, listen and feel for signs of possible bacterial infection, and
- Measure axillary temperature by placing the thermometer in the axilla for five minutes (or feel for low body temperature).
- If any signs of possible serious bacterial infection OR temperature still below  $36.5^{\circ}\text{C}$  (or feels cold to touch):
  - Refer **URGENTLY** to hospital after giving pre-referral treatments for possible serious bacterial infection
- If no sign of possible serious Bacterial infection and temperature  $36.5^{\circ}\text{C}$  or more (or is not cold to touch):
  - Advise how to keep the infant warm at home.
  - Advise mother to give home care.
  - Advise mother when to return immediately.
- Skin to skin contact is the most practical, preferred method of warming a hypothermic infant in a primary health care facility. If not possible:
  - Clothe the baby in 3-4 layers, cover head with a cap and body with a blanket or a shawl; hold baby close to caregiver's body, OR
  - Place the baby under overhead radiant warmer, if available.

**(Avoid direct heat from a room heater and use of hot water rubber bottle hot brick to warm the baby because of danger of accidental burns).**

#### 4) Treat Local Infections at Home

##### A) Treatment with Oral Drugs

You have to give oral cotrimoxazole or amoxicillin for LOCAL BACTERIAL INFECTION and SEVERE DEHYDRATION.

You have to give full course of cotrimoxazole or ampicillin to infant with LOCAL BACTERIAL INFECTION at home. You should give cotrimoxazole by mouth every morning and every night, (two times daily) for five days and give the accurate dose of the drug. The dosage of drugs is given in Table 3.14.

**Table 3.14 : Dose of Antibiotics**

Age and Weight	COTRIMOXAZOLE (trimethoprim + sulphamethoxazole) Give two times daily for 5 days		AMOXYCILLIN Give three times daily for 5 days	
	Adult Tablet single strength (80 mg trimethoprim +400 mg sulphamethoxazole)	Paediatric Tablet (20 mg trimethoprim +100 mg sulphamethoxazole)	Tablet 250 mg	Syrup 125 mg in 5 ml
Birth up to 1 month (<3 kg)		½*		1.25 ml
1 month up to 2 months (3-4 kg)	¼	1	¼	2.5 ml

Table 3.14 shows that the dosage of cotrimoxazole in infants (from birth to one month) is half-paediatric tablet twice a day for five days and for the infant between the age of one month up to two months, the dose of cotrimoxazole is one paediatric tablet twice a days for five days.

**Remember:**

Do not give cotrimoxazole to infants less than one month of age and those who are premature or jaundiced.

You have to advise the mother to give tablet cotrimoxazole two times every day for five days.

Sometimes you may not have cotrimoxazole (paediatric) tablets but you may have only cotrimoxazole (adult) tablets. In such situation you should give ¼th tablet (adult tablet) of cotrimoxazole to the infant from birth up to one month in place of one paediatric tablet. Remember that ½ tablet of cotrimoxazole (adult tablet) is equal to one paediatric tablet.

If you use Amoxicillin you have to give amoxicillin three times daily for five days. Give 1.25 ml. amoxicillin syrup to an infant, birth up to one month (<3 kg

weight) and ¼ tablet of amoxicillin or 2.5 ml of amoxicillin syrup to infant one month up to two months (3–4 kg weight).

- Give cotrimoxazole by mouth every morning and every evening for five days.
- Give amoxicillin by mouth three times daily for five days.
- Tell the mother the reasons for giving the drug to the infant.
- Demonstrate how to measure a dose.
- Demonstrate to the mother how to administer oral cotrimoxazole at home and take return demonstration to ensure that the mother is able to give the drug at home
- Ask the mother checking questions to make sure that she has understood all the steps of preparing the medicine for giving it to the young infant.

B) **Treatment of Local Infections at Home** : Refer Table 3.15 for Treatment of Local Infections at home. The Local Infections are usually of Umbilical cord, Thrush and Ear.

**Table 3.15 : Treatment for Local Infections at home**

Treat Skin Pustules or Umbilical Infections	To Treat Thrush (Ulcers or White Patches in Mouth)	Dry the Ear by Wicking
<p>Apply gentian violet paint twice daily.</p> <p>The mother should:</p> <ul style="list-style-type: none"> <li>• Wash hands.</li> <li>• Gently wash off pus and crusts with soap and water.</li> <li>• Dry the area.</li> <li>• Apply 0.3% of Gentian Violet paint on the umbilicus and the area of skin pustules and teach the mother how to apply Gentian Violet paint.</li> <li>• Wash hands.</li> </ul>	<p>Tell the mother to do the treatment twice daily.</p> <p>The mother should:</p> <ul style="list-style-type: none"> <li>• Wash hands .</li> <li>• Wash mouth with clean soft cloth wrapped around the finger and wet with salt water.</li> <li>• Apply Gentian Violet paint (0.23g) in oral cavity and teach the mother how to apply it at home.</li> <li>• Explain the mother to give these local treatments twice each day.</li> <li>• Wash hands.</li> </ul>	<ul style="list-style-type: none"> <li>• Dry the ear atleast 3 times daily.</li> <li>• Roll clean cloth or a strong tissue paper into a wick.</li> <li>• Place the wick in the young infant’s ear.</li> <li>• Remove the wick when wet.</li> <li>• Replace the wick with a clean one and repeat these steps until the ear is dry.</li> </ul>

- Explain to the mother what the treatment is and why it should be given.
- Describe the treatment steps listed in the Table 3.15.
- Watch the mother as she gives the first treatment in the clinic.
- Tell her, how often to give the treatment at home and for how long.
- Give mother a small bottle of gentian violet.
- Check the mother’s understanding before she leaves the clinic .

Some treatments for local infections cause discomfort. Infants often resist having their eyes, ears or mouth treated. Therefore, it is important to hold the infant still. This will prevent the infant from interfering with the treatment.

**Tilt the infant's head, back when treating mouth ulcers. Tilt the infant's head to the side when wicking the ear. Do not attempt to hold the infant still until immediately before treatment.**

For umbilical or skin infection or thrush, the mother cleans the infected area and then applies gentian violet twice each day. 0.25 per cent gentian violet must be used in the mouth.

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

If the mother will treat skin pustules or umbilical infection, give her a bottle of full strength (0.5 per cent) gentian violet. If the mother will treat thrush, give her a bottle of half-strength (0.23 per cent) gentian violet.

If the young infant has an ear discharge, dry the ear by wicking.

Observe the mother as she practices. Give feedback. When she is finished, give her the following information:

- Wick the ear three times daily.
- Use this treatment for as many days as it takes, until the wick no longer gets wet when put in the ear and no pus drains from the ear.
- Do not place anything (oil, fluid, or other substance) in the ear between wicking treatments. No water should get in the ear.
- **Ask checking questions**, such as:  
“What materials will you use to make the wick at home?” “How many times per day will you dry the ear with a wick?” “What else will you put in your infant's ear?”

If the mother thinks she will have problems wicking the ear, help her solve them.

### C) **Treat Diarrhoea at Home: Plan A**

A young infant with diarrhoea having No Dehydration does not need referral. This infant should be treated at home by taking following measures as per Plan A (Treat Diarrhoea at Home).

- Give extra fluids by way of continuing breastfeeding more frequently and for longer time at each breastfeed. If the infant is exclusively breastfed, it is important not to introduce a food-based fluid. Additional fluids that may be given to a young infant are ORS solution and clean, preferably boiled water to the infant after each watery stool. If a young infant is given ORS solution at home, tell the mother to give five teaspoons of ORS followed by two teaspoons of clean preferably boiled water after each watery stools to the infant.

- Teach the mother preparation of ORS.
- Advise the mother to offer breastfeed, and then give the ORS solution. Remind the mother to stop giving ORS solution after the diarrhoea has stopped.

**Plan B Treat Some Dehydration:** A young infant who has some dehydration needs ORS solution as described in Plan B.

- Plan B: Treat some dehydration with ORS
- Give recommended amount of ORS in the clinic
- Determine amount of ORS to be given during first 4 hours

Age	Up to 4 months	4 months to 12 months
Weight	< 6 kg	6-<10 kg
In ml	200-400	400-700

Use the infant’s age when the weight is not known. The approximate amount of ORS for an infant can be calculated by multiplying child’s weight with 75.

- Give more ORS if infant wants more ORS
- For infants less than 6 months who are not breastfed also give 100-200 ml clean water during this period.
- Give ORS in small sips. Wait for 10 minutes if infant vomits and then restart.
- **Reassess after 4 hours** and change the plan according to the condition of infant. Plan A can be started.
- Tell mother how to prepare ORS before she leaves the facility.
- Explain her 3 rules of home treatment
  - 1) Give extra fluid
  - 2) Continue feeding
  - 3) When to return
- Teach mother how to keep young infant warm at home with low weight or low body temperature
  - Do not bathe young infant with low weight or low body temperature; instead sponge with luke warm water to clean the infant
  - Provide day and night skin to skin contact (KMC) as much as possible
  - Maintain the room temperature between 25-28°C
  - Make baby and mother lie together in a bed
  - Cover mother and baby adequately with additional quilt, blanket or shawl especially in cold weather.

**D) Treat/Counsel the Mother about Feeding Problems**

If the young infant is classified as having feeding problem you have to counsel the mother.

- Teach the mother to treat nipple and breast problems as given below in Table 3.16.

- Teach the mother correct positioning and attachment for breastfeeding.
- Teach the mother to express breast milk and feed with cup and spoon.
- If mother complains of inadequate milk output, encourage mothers to increase breastfeeding frequency, drink plenty of fluids, eat a normal diet. If the infant is passing urine 5–6 times a day and weight for age is normal, assure mother of adequacy of her lactation.
- If the mother does not breastfeed at all, a breastfeeding counsellor may be able to help her to overcome difficulties and begin breastfeeding again.
- Advise mother who does not breastfeed about choosing and correctly preparing diary/locally appropriate animal milk. Also advise her to feed the young infant with a cup, and not from a feeding bottle.

**Table 3.16: Treating nipple and breast problems**

- If the nipple is sore, apply breast milk for soothing effect and ensure correct positioning and attachment of the baby. If the mother continues to have discomfort, feed expressed breast milk with katori and spoon.
- If the breasts are engorged, let the baby continue to suck if possible. If the baby cannot suckle effectively, help the mother to express milk and then put the young infant to the breast. Putting a warm compress on the breast may help.
- If mother's breast has developed abscess, advise her to feed from the other breast and refer to a surgeon. If the young infant wants more milk, feed undiluted animal milk with added sugar by cup and spoon.

During the first few weeks after birth, breast and nipple problems can be important causes feeding problems and poor growth in young infant. Some of the common problems are flat or inverted nipples, sore nipples or breast abscess in the mother.

### Check Your Progress 2

- 1) List the treatment required for a young infant with Severe Dehydration and Possible Serious Bacterial Infection.

.....  
.....

- 2) Fill in the blanks:

- i) You have to teach mother for..... and  
..... during breastfeeding.

- ii) Local infections in young infant are treated at home by applying

.....  
.....

## 3.4 ASSESS AND CLASSIFY THE SICK CHILD

In the previous section we learnt about sick infant and management of their illness. Let us now learn about the assessment and classification of illnesses in case of a Sick Child.

### 3.4.1 Assess General Danger Signs

You should assess all sick children for general danger signs. Danger signs indicate serious illness. General danger signs are given below:

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

In order to assess the general danger signs, you have to ask the following questions to the mother/caregiver as given in Table 3.17 below:

**Table 3.17: Check for General Danger Signs**

CHECK FOR GENERAL DANGER SIGNS		
Ask:	Look:	
<ul style="list-style-type: none"> <li>• Is the child able to drink or breastfeed?</li> <li>• Does the child vomit everything?</li> <li>• Has the child had convulsions?</li> </ul>	<ul style="list-style-type: none"> <li>• See if the child is lethargic or unconscious.</li> </ul>	<ul style="list-style-type: none"> <li>• Not able to drink or breastfeed</li> <li>Or</li> <li>• Vomits everything</li> <li>Or</li> <li>• Convulsions</li> <li>Or</li> <li>• Lethargic or unconscious</li> </ul>
<p><b>A child with general danger sign needs URGENT attention; complete the assessment and any pre-referral treatment immediately so that referral is not delayed.</b></p>		

You have seen in Table 3.17 above that you have to ask the following questions to the mother/ caregiver:

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

If mother says “**Yes**” to the above question, you have to ask next question and if she answers “**No**” then ask the mother to offer water or breastmilk to the child and see if he/she is able to drink. A very sick child may just refuse to take feed and may be too sick to drink or breastfeed (Fig. 3.5).

**A breastfed child may have difficulty in sucking when child’s nose is blocked. If the nose is blocked, clear it. If the child can be breastfed after his nose is cleared, the child does not have the danger sign “not able to drink or breastfeed”.**

*ASK: Does the child vomit everything?*

A child, who vomits everything and is **not able** to hold down food, fluids or oral medication has the sign “**vomits everything**”.

A child who vomits several times but **can hold** down some fluids, does not have this general danger sign “**vomits everything**”.

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

Ask the mother, if child had convulsions (jerky movements) during the current illness. You may also actually observe a convulsion when the child is with you in the clinic. You should use local term for convulsions.

After asking the above questions, you have to look for lethargy or unconsciousness.

**LOOK:** *If the child is lethargic or unconscious*

You can observe lethargy or unconsciousness by talking and shaking the child or by clapping our hand.

A **lethargic child** is not awake and alert and is sleeping when he should be awake. A child who stares blankly and does not appear to notice what is happening around him is also lethargic.

An **unconscious child** does not awaken at all and does not respond to touch, loud noise or pain.

Record the presence of any general danger sign by putting a tick mark (✓) against Yes or No.



Fig. 3.5: Sick Child

### 3.4.2 Assess and Classify Cough or Difficult Breathing

#### Assess Cough or Difficult Breathing

Assessment of cough or difficult breathing includes asking questions, looking, listening and feeling for the related signs. The questions and related signs are given in Table 3.18.

Table 3.18 : Assess Cough or Difficult Breathing

Then Ask About Main Symptoms: Does the Child Have Cough Or Difficult Breathing				
<b>IF YES, ASK:</b>	-For How long?	<b>LOOK:</b>	-Count the breaths in one minute. -Look for chest indrawing.	} Child Must be calm

- Ask the mother, does the child have cough or difficult breathing?
- Ask the mother for **how long the child has had cough?** (Duration of cough or number of days the child is having cough).
- **LOOK for chest indrawing**
- Assess for stridor

A child with cough or difficult breathing is assessed for:

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

**Ask the mother, does the child have cough or difficult breathing?**

A mother may describe difficult breathing as “fast”, “noisy” or “interrupted”.

**Remember:**

If the mother **answers “No”** to the above question do not **assess** for cough or difficult breathing and you should go to the next sign or problem i.e., **assess diarrhoea.**

If the mother says **“Yes”** then assess the child further for cough or difficult breathing.

**Ask the mother for how long the child has had cough?** (Duration of cough or number of days the child is having cough).

**A child who has had cough or difficult breathing for more than 30 day has a chronic cough and needs to be referred to hospital for further assessment.**

Count the breaths for one minute. You must count breathing for one full minute in quiet and calm child to decide whether the child has fast breathing or normal breathing. If the child is crying, quieten the child and if the child is sleeping; do not disturb the child. Explain to the, mother that the child needs to be quiet while you are counting breathing.

After counting the breathing rate for one minute you should decide whether child has fast or normal breathing rate.

<b>If the child is:</b>	<b>Fast breathing is:</b>
2 months up to 12 months	<b>50</b> breaths per minute or more
12 months up to 5 years	<b>40</b> breaths per minute or more

If the breathing rate of a child in the age group of 2 months up to 12 months is 50 per minute or more, the child has the sign of fast breathing. Similarly, a child in the age group of 12 months up to 5 years has fast breathing if the breathing rate is 40 per minute or more.

**LOOK for chest indrawing**

As you know in the normal breathing the whole chest wall (upper and lower) and the abdomen moves OUT when the child breathes IN.

**If the lower chest wall goes IN when the child breathes IN, it Indicates that the child has chest Indrawing.**

If only the soft tissue between the ribs go in when the child breathes IN (intercostal indrawing/retraction), the child does not have the sign, chest indrawing.

Chest indrawing in a child with cough or difficult breathing is a specific danger sign of Severe Pneumonia and child should be referred to hospital immediately.

### Assess for stridor

Stridor is a harsh noise made when child breaths IN. It occurs due to swelling of the larynx, trachea or epiglottis. Look and listen for stridor when the child breaths IN by bringing ear close to mouth.

Once you have assessed the cough or difficult breathing, you have to classify the cough or difficult breathing as given below.

### Classify Cough or Difficult Breathing

You have to classify the illness of the child according to “Classify As” column of the Chart on the basis of your signs. Refer Table 3.19 for classifying illness i.e. cough or difficult breathing.

**Table 3.19 : Classification of Cough or Difficult Breathing**

Signs	Classify as
<ul style="list-style-type: none"> <li>Any general danger sign or Chest indrawing or spridor</li> </ul>	SEVERE PNEUMONIA OR VERYSEVERE DISEASE
<ul style="list-style-type: none"> <li>Fast breathing</li> </ul>	PNEUMONIA
<ul style="list-style-type: none"> <li>No sign of pneumonia or very severe disease</li> </ul>	NO PNEUMONIA: COUGH or COLD

Look at the “Classify As” column of Table 3.19. You will find that there are three possible classifications for a child with cough or difficult breathing. They are:

- Severe Pneumonia or Very Severe Disease
- Pneumonia
- No Pneumonia: Cough or Cold

Let us now explain each one of them.

#### Severe Pneumonia or Very Severe Disease

A child with cough or difficult breathing is classified as having Severe Pneumonia or Very Severe Disease if the child has any general danger sign or chest indrawing or stridor.

#### Pneumonia: Cough or cold

If a child with cough or difficult breathing who has no danger sign and no chest indrawing but has only fast breathing, then the child is classified as having Pneumonia.

#### No Pneumonia: Cough or cold

No Sign of Pneumonia or severe disease

### 3.4.3 Assess and Classify Diarrhoea

#### Assess Diarrhoea

You have to assess a child with diarrhoea by asking the questions and by looking and feeling the signs listed in the Table 3.20.

**Table 3.20: Assess Diarrhoea**

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

**Classify Diarrhoea**

After you have assessed the child for diarrhoea, signs of dehydration, persistent diarrhoea dysentery. You have to classify the dehydration as follows (Table 3.21)

**Table 3.21 : Classification of Diarrhoea**

Signs	Classify as
Two of the following signs: <ul style="list-style-type: none"> <li>• Lethargic or unconscious.</li> <li>• Sunken eyes.</li> <li>• Not able to drink or drinking poorly.</li> <li>• Skin pinch goes back very slowly.</li> </ul>	SEVERE DEHYDRATION
Two of the following signs: <ul style="list-style-type: none"> <li>• Restless, irritable.</li> <li>• Sunken eyes.</li> <li>• Drinks eagerly, thirsty.</li> <li>• Skin pinch goes back slowly.</li> </ul>	SOME DEHYDRATION
Not enough signs to classify as some or severe dehydration. Classification of some persistent diarrhoea	NO DEHYDRATION
Dehydration present	Severe Persistent Diarrhoea
No dehydration	Persistent Diarrhoea
Blood in the stool	DYSENTERY

If you look at the Classify As column of the Table 3.21, you will find that there are three possible classifications of dehydration:

- Severe Dehydration
- Some Dehydration
- No Dehydration

**Let us further explain each one of them:**

### **Severe Dehydration**

You can classify a child as having Severe Dehydration, if he has any two of the following signs:

- Lethargic or unconscious
- Sunken eyes
- Not able to drink or drinking poorly
- Skin pinch goes back very slowly

### **Some Dehydration**

You can classify the child as having Some Dehydration, if the child has any two of the following signs:

- Restless, irritable
- Sunken eyes
- Drinks eagerly, thirsty
- Skin pinch goes back slowly

### **No Dehydration**

You can classify the child as having No Dehydration if there are not enough signs to classify as some or severe dehydration.

You also have to classify Severe Persistent Diarrhoea and Dysentery.

### **Severe Persistent Diarrhoea**

Classify the child as having Severe Persistent Diarrhoea, if the child has diarrhoea of 14 days or more duration with dehydration. If there is no dehydration it is classified as Persistent Diarrhoea.

### **Dysentery**

Classify the child as having Dysentery, if the child is having blood in the stool.

#### **Remember:**

- Classify all cases of diarrhoea for dehydration. In addition also classify as severe persistent diarrhoea if duration is 14 days or more and dysentery if there is blood in stool.
- Children with signs of severe dehydration should be referred to hospital.
- Children with severe persistent diarrhoea should be referred to hospital.
- Children with dysentery should be treated with medicine at home.
- Children with some dehydration should be rehydrated with ORS.
- Children who are not dehydrated and have diarrhoea of less than 14 days duration should be managed at home.

### 3.4.4 Assess and Classify Fever

#### Assess Fever

You should ask following questions to assess the signs of fever in a child (Table 3.22):

**Table 3.22 : Assess Fever**

<b>DOES THE CHILD HAVE FEVER? (BY HISTORY OR FEELS HOT TO TOUCH OR TEMPERATURE IS 37.5°C OR ABOVE)</b>	
<b>IF YES:</b>  <b>THEN ASK:</b>  Fever for how long?  If more than 7 days has fever been present every day?	<b>LOOK AND FEEL:</b>  Look or feel for stiff neck
*These temperatures are based on axillary temperature. Rectal temperature readings are approximately 0.5°C higher.	

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

First you have to ask the mother if the child has fever. If she says yes then put the thermometer in the armpit of the child for 3–5 minutes, this will help you to know the degree of fever i.e. how high is the fever of the sick child. If you do not have thermometer, place the back of your hand in the armpit or on the tummy of the child to decide if the child feels hot to touch.

#### Decide malaria risk

Decide malaria risk as high or low depending upon the National Anti-Malaria Programme in the country.

**Remember:**

Fever is present if the mother is sure that her child has had fever or if you have determined that the child feels hot to touch or if the temperature measured by the thermometer is 37.5°C or more. (The temperature should be measured in the armpit).

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

You have to ask the mother how long the child has had fever. If the mother answers that fever has been present everyday for more than 7 days, refer this child for further assessment.

#### Feel for Bulging Fontanel

Feel for bulging fontanel the way you assessed in young infants, if it is open. The anterior fontanel remains opened till 18 months of age.

#### LOOK or FEEL for stiff neck

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

While you talk with the mother during the assessment, look to see if the child

moves and bends his neck easily as he looks around. If the child is moving and bending his neck, he does not have a stiff neck.

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

### Runny Nose

Look for runny nose. A child with fever and runny nose from low malaria risk area does not require any antimalarial drugs. The fever in the child could be due to common cold.

### Measles

Children with fever should be assessed for signs of current ulcers or previous measles (within the last three months). Look for signs of measles such as generalised rash, cough or running nose or red eyes.

If child had measles now or within last 3 months, look for mouth ulcers (whether deep and extensive), pus draining from eyes or clouding of cornea.

#### Remember:

- The child does not have history of fever, does not feel hot or temperature is less than 37.5°C. Do not assess the child further for signs related to fever. Ask about the next main symptom i.e. malnutrition.
- Most of the fever due to viral illnesses go away within a few days.
- A fever, which has been present, every day for more than 7 days can mean that the child has a more severe disease such as typhoid fever. Refer this child for further assessment.

### Classify Fever

After you have assessed the child for fever, then you have to classify the fever based on the signs you have identified, as given in Table 3.23 below:

**Table 3.23: Classification of Fever (in high Malaria risk)**

Signs	Classify as
Any general danger sign or Stiff neck or Bulging Fontanel	VERY SEVERE FEBRILE DISEASE
Fever (by history or feels hot or temperature 37.5°C or above)	MALARIA

**Table 3.24 : Classification of fever (in low malaria risk)**

Any general danger sign or Stiff neck or Bulging fontanel	VERY SEVER FEBRILE DISEASE
No runny nose and No measles and No other cause of fever	MALARIA
Runny nose or Measles present or Other causes of fever present	FEVER- MALARIA UNLIKELY

Any general danger sign or Clouding of cornea Deep or extensive mouth ulcers	SEVERE COMPLICATED MEASLES
Pus draining from eye or Mouth Ulcers	MEASLES WITH EYE OR MOUTH COMPLICATIONS
Measles now or within the last 3months	MEASLES

If you look at the Classify as column of the Table 3.24 above, you will find that there are two possible classification for a child with fever.

- Very Severe Febrile Disease
- Malaria

Let us further explain this.

**Very Severe Febrile Disease**

If the child with fever has any general danger sign or stiff neck, classify the child as having Very Severe Febrile Disease. You should refer this child urgently to hospital.

**Malaria**

If the child gives history of fever or feels hot to touch or axillary temperature measures 37.5°C or above and has no general danger sign or stiff neck, classify this child as having Malaria.

In low malaria risk, Child with fever or history of fever and no general danger signs or stiff neck or bulging fontanel is classified as Very Severe Febrile Disease. A child with fever no runny nose or measles or no other cause of fever is classified as Malaria, while a child with fever, runny nose or measles or other cause of fever such as pneumonia, stridor, diarrhoea, ear infection or malnutrition is classified as Fever- Malaria Unlikely (Table 3.24).

In case of measles now or within last 3 months can be classified as Severe Complicated measles or Measles with Eye or Mouth Complications or Measles depending upon the signs seen in the child given in Table 3.24.

**3.4.5 Assess and Classify Ear Problem**

**Assess Ear Problems**

Assess sick child for ear problem.

A sick child can have ear pain due to which child may cry or become irritable. He may rub his ear frequently.

**Look and Feel**

Look and feel for tender swelling behind the ear. Both tenderness and swelling can be felt behind the ear.

**Ear Discharge**

When a mother reports that child has ear pain, health worker should check ear for any pus discharge.

## Classify Ear Problems

Based on presence of clinical signs sick child with ear pain is classified as given in Table 3.25.

**Table 3.25: Assess ear problems**

Sign	Classify as
<ul style="list-style-type: none"> <li>• Tender swelling behind the ear</li> </ul>	Mastoiditis
<ul style="list-style-type: none"> <li>• Pus is seen draining from the ear and discharge is reported for less than 14 days or</li> <li>• Ear pain</li> </ul>	Acute Ear Infection
<ul style="list-style-type: none"> <li>• Pus is seen draining from the ear and discharge is reported for 14 days or more</li> </ul>	Chronic Ear Infection
<ul style="list-style-type: none"> <li>• No ear pain and no ear discharge seen draining from the ear</li> </ul>	No Ear Infection

### 3.4.6 Assess and Classify Malnutrition

#### Assess Malnutrition

You can identify most cases of malnutrition by checking for following signs as given in Table 3.26.

**Table 3.26: Assess Malnutrition**

Malnutrition THEN CHECK
<p style="text-align: center;"><b>FOR MALNUTRITION</b></p> <p><b>LOOK AND FEEL:</b></p> <ul style="list-style-type: none"> <li>• Look for visible severe wasting.</li> <li>• Look for oedema of both feet.</li> <li>• Determine grade of malnutrition by plotting weight for age.</li> </ul>

#### LOOK for visible severe wasting

A child with visible severe wasting looks very thin, has no fat, and looks like skin and bones. You need to identify these children because they need urgent treatment and referral to a hospital.

To look for visible severe wasting, remove the child's clothes. Look for severe wasting of the muscles of the shoulders, arms, buttocks and legs. Look at the child from the side to see if the fat of the buttocks is missing. When wasting is extreme, there are many folds of skin on the buttocks and thigh.

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

#### Classify Malnutrition

You need to Classify Malnutrition as per Table 3.27.

**Table 3.27: Classify Malnutrition**

Signs	Classify as
Visible severe wasting or	Severe Malnutrition
Oedema of both feet Very low weight for age	VERY LOW WEIGHT
Not very low weight for age and no signs of severe malnutrition.	NOT VERY LOW WEIGHT



**Fig. 3.6: Visible Severe Wasting: Face View**



**Fig. 3.7: Visible Severe Wasting: Back View**



**Fig. 3.8: Visible Severe Wasting: Side View**

If you look at the Classify As column of Table 3.27, you will find that there are three possible classifications for a child with malnutrition. They are:

- Severe Malnutrition
- Very Low Weight
- Not Very Low Weight

### Severe Malnutrition

If the child has visible severe wasting or oedema of both feet as given in Table 3.27, then classify the child as having Severe Malnutrition.

### Very Low Weight

If the child has malnutrition grade 2, 3 or 4, classify the child as having Very Low Weight.

### Not Very Low Weight

If the child is normal weight for its age or there is malnutrition grade 1, then classify the child as having Not Very Low Weight.

#### Remember:

- A child with severe malnutrition has a serious problem and should be urgently referred to hospital.
- Children with very low weight should be assessed and counselled for feeding.
- All children less than 2 years of age and should be assessed and counselled for feeding.

## 3.4.7 Assess and Classify Anaemia

### Assess Anaemia

You have to check all sick children for signs suggesting anaemia as given in Table 3.28, You can identify most cases of anemia by checking for **palmar pallor**.

**Table 3.28: Check for Anaemia**

THEN CHECK FOR ANAEMIA
<p><b>LOOK AND FEEL:</b></p> <p>Look for palmar pallor. Is it:</p> <ul style="list-style-type: none"> <li>• Severe palmar pallor?</li> <li>• Some palmar pallor?</li> <li>• No palmar pallor?</li> </ul>

Table 3.28 shows that you have to Look for palmar pallor and assess, is it severe palmar pallor or some palmar pallor or no palmar pallor?

Let us see what is palmar pallor.

### Palmar Pallor

Pallor is unusual paleness of the skin. If the skin looks pale, it is a sign of anaemia. You can assess the palmar pallor by comparing the colour of the child's palm

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

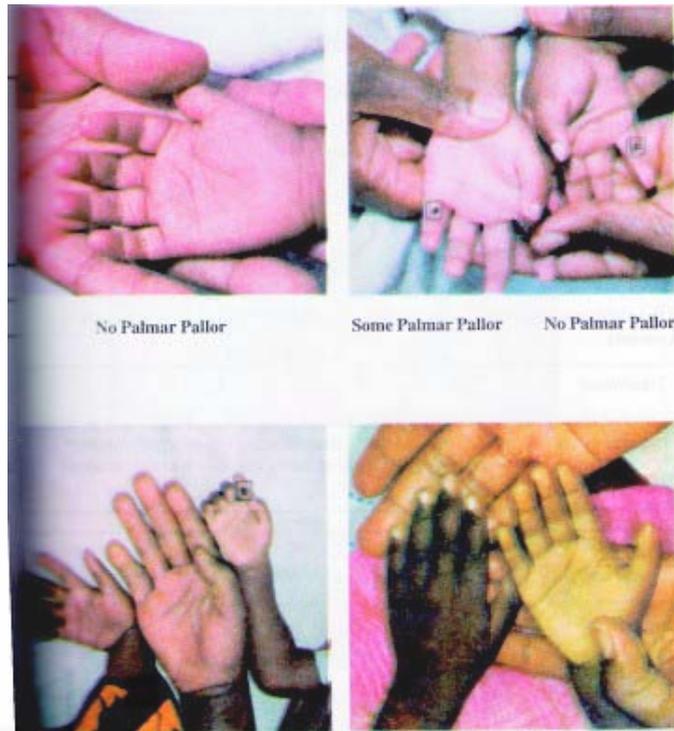


Fig. 3.9: Comparing the palm of the child to check palmar pallor

### Classify Anaemia

Classify Anemia as per Table 3.29.

Table 3.29: Classification of Anaemia

Signs	Classify as
Severe palmar pallor	SEVERE ANAEMIA
Some palmar pallor	ANAEMIA
No palmar pallor.	NO ANAEMIA

If you look at the Classify As column of Table 3.29, you will find that there are three possible classification for a child with Anaemia:

- Severe Anaemia
- Anaemia
- No Anaemia

### Severe Anaemia

If the child has severe palmar pallor, then classify the child as having Severe Anaemia.

**Remember:**

A child with severe anaemia should be referred to hospital.

## Anaemia

If the child has some palmar pallor, classify the child as having Anaemia.

## No Anaemia

If the child has no palmar pallor, then classify the child as having No Anaemia.

### 3.4.8 Assess Immunization, Prophylactic Vitamin A and Iron-Folic Acid

#### 1 Immunization Status

THEN CHECK THE CHILD'S IMMUNIZATION STATUS	
IMMUNIZATION SCHEDULE	
Age	Vaccine
Birth	BCG + OPV - O
6 Weeks	DPT-1+ OPV-1 +HepB-1*
10 weeks	DPT-2+ OPV-2 +HepB-2*
14 weeks	DPT-3+ OPV-3 +HepB-3*
9 months	Measles DPT
16-18 months	OPV+ DPT
60 months	DPT

\*Hepatitis B, if included in the immunization Schedule.

- Immunize all children as per schedule.

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

- Do not give BCG to child known to have AIDS, however asymptomatic HIV positive baby can be given BCG vaccination.
- Do not give DPT-2 or DPT T-3 to a child who has had convulsions after last first dose of DPT or shock within 3 days of the most recent dose.
- Do not give DPT to a child with recurrent convulsions or any active neurological disease of the central nervous system.

#### Remember:

If a child is going to be URGENTLY referred, do not immunize the child before referral. This will delay referral.

- ASK the mother to show the immunization card, if she has brought it alongwith her.
- Compare the child's immunization record with the national immunization schedule. Decide whether the child has had all the immunizations recommended for the child's age.
- Check all immunisations the child has already received and tick mark the immunization record of child. Write the date of the immunization the child received most recently. Circle any immunizations the child needs today.

If the mother says that she does NOT have an Immunisation Card with her:

- ASK the mother to tell you what immunisations the child has received.
- Use your judgement to decide if the mother has given a reliable report. If you have any doubt, immunise the child. Give the child OPV, DPT and measles vaccine according to the child's age.
- Give an Immunisation Card to the mother and ask her to bring it with her each time she brings the child to the clinic.

Tick mark (✓) are received immunisation and encircle immunisation needed today.

## 2 Prophylactic Vitamin A Supplementation Status

- **THEN CHECK THE CHILD'S VITAMIN A SUPPLEMENTATION STATUS**

### PROPHYLACTIC VITAMIN A

**Give a single dose of vitamin A:**

100,000 IU (1ml) at 9 months with measles immunisation  
200,000 IU (2 ml) at 16-18 months with DPT Booster  
200,000 IU (2 ml) at 24 months  
200,000 IU (2 ml) at 30 months  
200,000 IU (2 ml) at 36 months

## 3 Iron-Folic Acid Supplementation Status

**Iron-Folic Acid Supplementation Status**

**THEN CHECK THE CHILD'S IRON-FOLIC ACID SUPPLEMENTATION STATUS**

### PROPHYLACTIC IFA

Give one tablet of Paediatric IFA (20 mg elemental iron and 100 mg folic acid)/ 5 ml of IFA syrup or 1ml of IFA drops.

For a total of 100 days in a year after the child has recovered from acute illness, **if:**

- The child is 6 months of age or older, and
- Has not received Paediatric IFA Tablet for 100 days in last one year.

### 3.4.9 Assess Child Feeding

- If child has no other severe classification give fluid for severe dehydration (Plan C)
- If the child has another severe classification, refer urgently to hospital.
- Advise mother to continue breastfeeding
- If child is 2 year or older and there is cholera in your area give amoxicillin for cholera.

### Check Your Progress 3

- i) If the child reaches out for the cup or spoon when you offer him water. It indicates which of the following signs:
  - a) Drinking eagerly
  - b) Drinking poorly
  - c) Not able to drink
  - d) All of the above.
- ii) List the three possible classifications of dehydration in a child with diarrhoea.
  - a) .....
  - b) .....
  - c) .....
  - d) .....
  - e) .....
- iii) If the child moves and bends his neck easily as he looks around, it indicates the child does not have .....neck.
- iv) List down two possible classification of fever in a child.
  - a) .....
  - b) .....
- v) Enumerate three classifications for a child with Malnutrition.
  - a) .....
  - b) .....
  - c) .....

## 3.5 IDENTIFY TREATMENT AND TREAT SICK CHILD

### 3.5.1 Identify Treatment for Pneumonia (Cough or Difficult Breathing)

The treatment for cough or difficult breathing is given in Table 3.30. You have seen in that if a child is classified as having Severe Pneumonia or Very Severe Disease (classification in red box), you should refer him/her urgently and give first dose of injectable chloramphenicol (oral amoxicillin/ cotrimoxazole if injection is not available) as described in red column of Table 3.30.

If a child is having Pneumonia (classification in yellow box), you should identify and give the correct treatment as given in “Identify Treatment” column of Table 3.30.

If the child is classified as having No Pneumonia: Cough or Cold (classification in green box), you should advise mother about home care, for cough or cold as Table 3.30.

**Table 3.30 : Identify Treatment for Cough or Difficult Breathing**

Signs	Classify as	Identify Treatment
<ul style="list-style-type: none"> <li>Any general danger sign or</li> <li>Chest indrawing or</li> <li>Stridor in calm child</li> </ul>	Severe Pneumonia or Very Severe Disease	<ul style="list-style-type: none"> <li>Give first dose of injectable chloramphenicol (40 mg/kg), if not possible give oral amoxicillin/cotrimoxazole</li> <li>Refer <b>URGENTLY</b> to hospital</li> </ul>
<ul style="list-style-type: none"> <li>Fast breathing</li> </ul>	Pneumonia	<ul style="list-style-type: none"> <li>Give cotrimoxazole for 5 day. (2 pediatric tables twice daily for a child between 2 months to 12 months, and 3 tablets twice daily for a child 12 months up to 5 years)</li> <li>Advise mother when to return immediately</li> <li>Follow up in 2 days</li> </ul>
<ul style="list-style-type: none"> <li>No sign of pneumonia or very sever disease</li> </ul>	No Pneumonia : Cough or Cold	<ul style="list-style-type: none"> <li>Advise home care for cough or cold with safe home remedy, if child is 6 months or older</li> <li>if coughing for more than 30 days, refer for assessment</li> <li>Advise mother when to return immediately</li> <li>Follow up in 5 days</li> </ul>

### 3.5.2 Identify Treatment for Diarrhoea and Dehydratrion

After you have assessed a child is having **Diarrhoea** then you have to identify treatment for dehydration, persistent diarrhoea and dysentery as given in Table 3.31.

**Table 3.31: Identify Treatment of Diarrhoea and Dehydration**

Signs	Classify as	Identify Treatment
Two of the following signs: <ul style="list-style-type: none"> <li>Lethargic or unconscious.</li> <li>Sunken eyes.</li> <li>Not able to drink or drinking poorly.</li> <li>Skin pinch goes back very slowly.</li> </ul>	Classify as severe Dehydration	<ul style="list-style-type: none"> <li>If child has no other sever classification. Give fluid for severe dehydration (plan C)</li> <li>If the child has another severe classification, refer urgently to hospital.</li> <li>Advise mother to continue breastfeeding, If child is 2 years or Older and there is cholera in your area give doxycycline for cholera.</li> </ul>
Two of the following signs: <ul style="list-style-type: none"> <li>Restless, irritable.</li> <li>Sunken eyes.</li> <li>Drinks eagerly, thirsty.</li> </ul>	Some Dehydration	<ul style="list-style-type: none"> <li>Give fluid and food for some dehydration (Plan B)</li> <li>Follow-up in 5 days if not improving</li> <li>Advise mother when to return immediately</li> </ul>

<ul style="list-style-type: none"> <li>• Skin pinch goes back slowly.</li> </ul>		<ul style="list-style-type: none"> <li>• If child has another severe classification, refer child urgently to hospital</li> </ul>
<p>Not enough signs to classify as some or severe dehydration. Classification of some persistent diarrhoea</p>	No Dehydration	<ul style="list-style-type: none"> <li>• Give fluid and food to treat diarrhoea at home (Plan A)</li> <li>• Follow-up in 5 days if not persistent diarrhoea</li> <li>• Advise mother when to return immediately</li> </ul>
Dehydration Present	Severe Persistent Diarrhoea	<ul style="list-style-type: none"> <li>• Treat dehydration before referral unless the child has another severe classification</li> <li>• Refer to hospital</li> </ul>
No Dehydration	Persistent Diarrhoea	<ul style="list-style-type: none"> <li>• Advise mother on feeding a child with PERSISTENT DIARRHOEA</li> </ul>
Blood in the stool	Dysentery	<ul style="list-style-type: none"> <li>• Give single dose of Vitamin A</li> <li>• Give Zinc Sulphate 20 mg daily for 14 days Follow up in 5 days.</li> <li>• Give cotrimoxazole for 5 days (2 Paediatric tablets twice daily for a child 2 months up to 12 months and 3 tablets twice daily for a child 12 months up to 5 years)</li> <li>• Follow-up in 2 days</li> </ul>

In Table 3.31, you have seen that if a child is classified as having Severe Dehydration (classification in red box), he needs extra fluids quickly by intravenous route.

Refer this child urgently to the nearest clinic or hospital, where IV or NG treatment facility is available.

A child with Some Dehydration (classification in yellow box), needs extra fluid and food, so you have to treat the child with ORS (Plan B).

A child who is classified as having No Dehydration (classification in green box), needs extra fluids to prevent dehydration as per Plan A. You need to explain the mother about three rules for home treatments i.e., give extra fluid, continue feeding and when to return.

### 3.5.3 Identify Treatment for Fever

If you assessed and classified a child as having Fever you have to identify and give treatment to child for fever. Treatment of fever as per classification is given in Table 3.32.

**Table 3.32 : Identify Treatment of Fever**

Signs	Classify as	Identify Treatment
Any general danger sign or Stiff neck or Bulging Fontanel	Very Severe Febrile Disease	<p>Give first dose of quinine intramuscularly after making a blood smear</p> <p>Give first dose of Inj Choloramphenicol 40 mg/kg (if not possible give oral amoxicillin)</p> <p>Treat the child to prevent low blood sugar</p> <p>Give one dose of paracetamol tablet if temperature is more than or equal to 38.5°C</p> <p>Refer URGENTLY to hospital</p>
Fever (by history or feels hot or temperature 37.5°C or above)	Malaria	<p>Give oral antimalarials for high malaria risk area after making a blood smear</p> <p>Give one dose of paracetamol in clinic for high fever (temp. 38.5°C or above)</p> <p>Advise mother when to return immediately</p> <p>Follow-up in 2 days if fever persists</p> <p>If fever is present everyday for more than 7 days, refer for assessment.</p>
Any general danger sign or Stiff neck or Bulging fontanel	Very Severe Febrile Disease	<p>Give first dose of quinine intra muscularly after making a blood smear</p> <p>Give first dose of Inj Choloramphenicol 40 mg/kg (if not possible give oral amoxicillin) Treat the child to prevent low blood sugar</p> <p>Give one dose of paracetamol tablet if temperature is more than or equal to 38.5°C</p> <p>Refer URGENTLY to hospital</p> <p>Give oral antimalarials for low malaria risk area after making a blood smear</p>
No runny nose and No measles and No other cause of fever	Malaria	<p>Give one dose of paracetamol in clinic for high fever (temp. 38.5°C or above)</p> <p>Advise mother when to return immediately</p> <p>Follow-up in 2 days if fever persists</p> <p>If fever is present everyday for more than 7 days, refer for assessment.</p>
Runny nose or Measles present or Other causes of fever present	Fever- Malaria Unlikely	<p>Give one dose of paracetamol in clinic for high fever (temp. 38.5°C or above)</p> <p>Advise mother when to return immediately</p> <p>Follow-up in 2 days if fever persists. If fever is present everyday for more than 7 days, refer for assessment.</p>

Signs	Classify as	Identify Treatment
Any general danger sign or Clouding of cornea Deep or extensive mouth ulcers	Severe Complicated Measles	Give first dose of Vitamin A  Give first dose of Inj  Cholarmphenicol 40 mg/kg ( if not possible give oral amoxicillin)  If clouding of the cornea or pus draining from the eye, apply tetracycline eye ointment  Refer URGENTLY to hospital
<ul style="list-style-type: none"> <li>• Pus draining from eye or</li> <li>• Mouth Ulcers</li> </ul>	Measles with Eye or Mouth Complications	<ul style="list-style-type: none"> <li>• Give first dose of Vitamin A</li> <li>• If pus draining from the eye, apply tetracycline eye ointment</li> <li>• If mouth ulcers, treat with gentian violet</li> <li>• Follow-up in 2 days</li> </ul>
<ul style="list-style-type: none"> <li>• Measles now or within the last 3 months</li> </ul>	Measles	<ul style="list-style-type: none"> <li>• Give first dose of Vitamin A</li> </ul>

Note: You need not refer to Signs column at this point.

If a child is classified as having Very Severe Febrile Disease (classification in red/pink box) you should refer the child urgently. You have to give pre-referral treatment as given in Table 3.32. This includes giving first dose of cotrimoxazole, first dose of antimalarial as per National Antimalaria Programme (NAMP) guidelines after making a smear and one dose of paracetamol in clinic for high fever. A child who is classified as having Malaria (classification in yellow box) is treated with oral antimalarial as per National Anti Malarial Programme (AMP) guidelines i.e. Chloroquine or Sulfadoxine + Pyrimethamine.

If the child feels hot to touch or if the temperature measured by thermometer is 38.5°C or more, you have to give one dose of paracetamol by mouth in the clinic. The dose of paracetamol is given in Table 3.33 and then advise the mother to continue every 6 hours until fever is relieved.

**Table 3.33 : Dose of Paracetamol**

Age of the Child	Paracetamol (500 mg tablet)
2 months up to 3 years	¼
3 years up to 5 years	¼

Also advise the mother to bring the child for follow-up in 2 days if fever persists.

**Remember:**

- If fever persists every day for more than 7 days refer the child for additional assessment, as it could be typhoid fever.
- Give paracetamol to the child with high fever if axillary temperature is 38.5°C or more.
- Advise the mother to return for follow-up in two days if the fever persists.

### 3.5.4 Identify Treatment for Ear Problem

A sick child with ear problem should be treated as the treatment given in Table 3.34.

**Table 3.34: Identify treatment for Ear Problem**

Signs	Classify as	Identify Treatment
Tender swelling behind the ear	Mastoiditis	Give first dose of injectable chloramphenicol (if not possible give oral amoxicillin) Give first dose of paracetamol for pain Refer to hospital urgently
Pus is seen draining from the ear and discharge is reported for less than 14 days or Ear pain	Acute Ear Infection	Give cotrimoxazole for 5 days Give paracetamol for pain Dry the ear by wicking
Pus is seen draining from the ear and discharge is reported for 14 days or more.	Chronic Ear Infection	Follow up in five days
No ear pain and no ear discharge seen draining from the ear	No Ear Infection	No additional treatment

### 3.5.5 Identify Treatment for Malnutrition and Anaemia

The treatment for the three classifications of child with malnutrition is listed in Table 3.35 as given below:

**Table 3.35: Treatment for Malnutrition**

Signs	Classify as	Identify Treatment
<ul style="list-style-type: none"> <li>Visible severe wasting</li> <li>or</li> <li>Oedema of both feet</li> </ul>	Severe Malnutrition	<ul style="list-style-type: none"> <li>Give single dose of vitamin A</li> <li>Prevent low blood sugar by breast milk, other milk/water with sugar (4 TSF sugar per cup)</li> <li>Keep the child warm</li> <li>Refer URGETNLY to hospital</li> </ul>
<ul style="list-style-type: none"> <li>Very low weight for age</li> </ul>	Very low weight	<ul style="list-style-type: none"> <li>Asses and counsel for feeding</li> <li>Advise mother when to return immediately</li> <li>Follow-up in 30 days (if feeding problem, follow-up in 5 days)</li> </ul>
<ul style="list-style-type: none"> <li>Not very low weight for age and no signs of severe malnutrition</li> </ul>	Not very low weight	<ul style="list-style-type: none"> <li>If child is less than 2 year old, assess and counsel for feeding</li> <li>If feeding problem, follow-up in 5 days</li> <li>Advise mother when to return immediately</li> </ul>

If the child is classified as having **Severe Malnutrition** (classification in red/pink box), these children need urgent referral to hospital where their treatment can be carefully monitored. Before the child leaves for hospital, you should give the child a dose of vitamin A, prevent low blood sugar and keep the child warm.

If the child has been classified as having **Very Low Weight** (classification in yellow box), then assess and counsel for feeding and follow-up in 14 days (if feeding problem, follow-up in 5 days).

If the child has been classified as having **Not Very Low Weight** (classification in green box), then assess and counsel the child for feeding if the child is less than 2 year old. If child has feeding problem, follow up in 5 days.

Treatment of Anaemia according to classification is given in Table 3.36 below:

**Table 3.36 : Identify Treatment for Anaemia**

Signs	Classify as	Identify Treatment
<ul style="list-style-type: none"> <li>Severe palmar pallor</li> </ul>	Severe Anaemia	<ul style="list-style-type: none"> <li>Refer to hospital URGENTLY</li> </ul>
<ul style="list-style-type: none"> <li>Some palmar pallor</li> </ul>	Anaemia	<ul style="list-style-type: none"> <li>Give Iron Folic Acid therapy for 14 days</li> <li>Assess and counsel for feeding</li> <li>Follow-up in 5 days in case of feeding problem otherwise in 14 days</li> </ul>
<ul style="list-style-type: none"> <li>No palmar pallor</li> </ul>	No Anaemia	<ul style="list-style-type: none"> <li>Give prophylactic iron folic acid if the child 6 months or older</li> </ul>

- If child is classified as having SEVERE ANAEMIA (classification in red/pink box), you have to refer the child to hospital.
- If the child has ANAEMIA (classification in yellow box), give iron, folic acid therapy for 14 days.
- If the child has NO ANAEMIA (classification in green box), give prophylactic iron folic acid if the child is 6 months or older.

**Remember:**

If a child with some pallor is receiving the antimalarial, Sulfadoxine - Pyrimethamine (Fansidar), do not give iron/folate tablets until a follow-up visit in 2 weeks. If the iron syrup at your clinic does not contain folate, you can give the child iron syrup with Sulfadoxine - Pyrimethamine.

### 3.5.6 Treat the Sick Child

#### 1) Treat Pneumonia and Dysentery with Cotrimoxazole

A child with cough or difficult breathing who has no general danger sign/s, **no chest indrawing** but has fast breathing (i.e. pneumonia) should be treated with cotrimoxazole. Similarly, a child with dysentery needs cotrimoxazole. You should give cotrimoxazole by mouth every morning and every night for five days. The dose of cotrimoxazole according to age is summarised in Table 3.37.

**Table 3.37 : Dose of Cotrimoxazole**

Age	Cotrimoxazole (Paediatric) (20 mg Trimethoprim+ 100 mg Sulphamethoxazole)	Morning	Evening
Birth up to 1 month	½ tablet (2 times daily) (morning and evening)		
1 month up to 2 months	1 tablet (2 times daily) (morning and evening)		

You have to give 2 tables of cotrimoxazole twice daily for five days to a sick child in the age **group of 2 months to 12 months**.

**2) Treat Diarrhoea and Dehydration with Oral Rehydration Salt (ORS) Solution**

ORS is the best treatment for children suffering from diarrhoea with dehydration.

You should treat the child with diarrhoea of less than 14 days duration who has signs of some dehydration under your supervision with ORS for 4 hours. For this, keep the mother and child under observation, either at the health center or at the home of the child. You must demonstrate the mother a correct method of preparing and administering the right amount/volume of ORS.

Ask the mother to give one teaspoon of the ORS solution to the child. This should be repeated every 1–2 minutes. (An older child who can drink it in sips should be given one sip every 1–2 minutes.)

If the child vomits the ORS tell the mother to wait for 10 minutes and resume giving the ORS but this time more slowly than before. In case of breastfed babies continue to give breast milk in between ORS. Any ORS, which is left over after 24 hours, should be thrown away.

Give more fluids than what the child usually drinks.

Use the following Table to determine the amount of ORS that should be given to the child in 4 hours:

**Table 3.38 : Amount of ORS to be Given during First-4 Hours**

<i>Plan B: Treat Some Dehydration with ORS</i> Give in clinic recommended amount of ORS over 4-hour period.> DETERMINE AMOUNT OF ORS TO GIVE DURING FIRST 24 HOURS				
Age	Up to 4 months	4 months up to 12 months	12 months upto 2 years	2 years up to 5 years
Weight	< 6 kg	6-<10 kg	10-<12 kg	12-19 kg
In ml	200-400	400-700	700-900	900-1400
Use the child’s age only when you do not know the weight. The approximate amount of ORS required (in ml ) can also be calculated by multiplying the child’s weight (in kg) times 75.				

- If the child wants more ORS than shown, give more.
  - For infants under 6 months who are not breastfed, also give 100-200 ml clean water during this period.
- > **SHOW THE MOTHER HOW TO GIVE ORS SOLUTION:**
- Give frequent small sips from a cup.
  - If the child vomits, wait for 10 minutes. Then continue, but more slowly.
  - Continue breastfeeding whenever the child wants.
- > **AFTER 4 HOURS:**
- Reassess the child and classify the child for dehydration.
  - Select the appropriate plan to continue treatment.
  - Begin feeding the child in clinic.
- > **IF THE MOTHER MUST LEAVE BEFORE COMPLETING TREATMENT:**
- Show her how to prepare ORS solution at home.
  - Show her how much ORS to give to finish 4-hour treatment at home.
  - Give her enough ORS packets to complete rehydration. Also give her 2 packets as recommended in Plan A.
  - Explain the 3 Rules of Home Treatment:
    - 1) GIVE EXTRA FLUID
    - 2) CONTINUE FEEDING
    - 3) WHEN TO RETURN

### 3) Treat High Fever with Paracetamol

High fever due to whatever the cause should be treated with paracetamol. If the axillary temperature is 38.5°C or above, or if the child feels hot to touch, or the mother says that the child feels hot to touch, give paracetamol. The dose of paracetamol is given in the following table 3.39. Paracetamol should be repeated every 6 hours but only if the fever is high. If fever persists for seven days or more, refer the child to hospital.

**Table 3.39 : Treat High Fever with Paracetamol**

Age of the Child	Paracetamol (500 mg/tablet)
2 months up to 3 years	¼
3 years up to 5 years	¼

### 4) Treat Anaemia with Iron and Folic Acid

Treat some pallor with iron. The dose of iron is given in Table 3.40. Do not give iron with tea since this reduces the absorption of the medicine and makes it less effective. Also advise mother to feed the child according to the Age Specific Feeding Recommendations.

**Table 3.40: Treat Anaemia with Iron and Folic Acid**

*Give Iron Folic Acid Therapy*

> Give one dose daily for 14 days.

Age or Weight	If a Paediatric Tablet
2 months up to 4 months (4 - <6 kg)	
4 months up to 24 months (6 - <12 kg)	1 tablet
2 years up to 5 years (12-19 kg)	2 tablets

Give 1 tablet of Iron to children in the age group of 4 months up to 24 months. Give 2 tablets of iron to children in the age group of 2 years up to 5 years.

Teach the mother how to give tablet to the child. Refer Practical 18 for important points to be explained to mother while giving iron to the child. Give Iron tablets for 14 days and ask mother to rerun for follow-up at that time.

Explain the mother that the tablet must be crushed into a powder before giving to the child.

Show her how to mix the crushed tablet with a small amount of breast milk or clean drinking water or porridge or banana or some other food that the child eats.

- Ask the mother to give the medicine to the child in your presence.
- Ask the mother checking questions to make sure that she has understood all the steps of preparing the medicine for giving it to the child.
- You must check the child again after 2 days.
- Inform the mother that the stools of the child will become black. This is not a cause of worry.

**Check Your Progress 4**

- i) Select the correct dose of oral drugs time schedule in the following cases:
- a) A six months old child needs the first dose of an antibiotic for severe pneumonia.
- .....
- .....
- b) A two-year-old child needs an antibiotic for pneumonia.
- .....
- .....
- ii) A four-year-old child, who has diarrhoea, but no general danger sign and no severe or some dehydration is classified as having Diarrhoea with No Dehydration. He is treated according to Plan A.

a) What are the three rules of home treatment of diarrhoea?

.....  
.....

b) What fluids you will advise the mother to give?

.....  
.....  
.....  
.....

c) What should mother do if child vomits the fluid?

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### 3.6 LET US SUM UP

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In this unit, you have learnt to assess and classify young infant for various illness and to identify treatment and treat young infant for Bacterial Infection, Diarrhoea and feeding problems. You also learnt to assess, classify and identify treatment and treat various illnesses of the child such as Severe Pneumonia or Very Severe Disease, Pneumonia, Severe Dehydration, Dysentery, Severe Febrile Disease, Malnutrition and Anaemia. You have also learnt to give pre-referral treatment, administer oral drugs and ORS. Hope this unit would have given you an insight into the assessment and treatment of various problems of young infant and child.

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### 3.7 MODEL ANSWERS

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#### Check Your Progress 1

- i) • Count the breaths in one minute. Repeat the count if elevated.
- Look for severe chest indrawing.
  - Look for nasal flaring.
  - Look and listen for grunting.
  - Look and feel for bulging fontanel.
  - Look for pus draining from the ear.
  - Look at the umbilicus. Is it red or draining pus?
  - Look for skin pustules. Are there 10 or more skin pustules or a big boil?
  - Measure axillary temperature (if not possible feel for fever or low body temperature).
  - See if the young infant is lethargic or unconscious.
  - Look at the young infant's movements. Are they less than normal?
  - Look for jaundice. Are the palms & soles yellow?

- ii) Two doses of OPV, one dose of DPT (DPT-1) and one dose of Hepatitis-B vaccine (Hepatitis B-1)

### Check Your Progress 2

- 1) 1) Severe Dehydration
- Give one dose of injection ampicillin and gentamycin or first dose of cotrimoxazole
  - Refer urgently to hospital
  - Advise mother to give sips of ORS
  - Advise mother to continue breastfeeding
- 2) Possible Serious Bacterial Infection
- Give one dose of injection ampicillin and injection gentamycin or 1st dose of cotrimoxazole
  - Refer urgently
  - Keep the young infant warm
  - Continue breastfeeding.
- 2) i) Correct positioning, attachment  
ii) 0.5% of gentian violet paint

### Check Your Progress 3

- i) a)
- ii) a) Severe Dehydration                      d) Severe persistent diarrhoea  
b) Some Dehydration                      e) Persistent diarrhoea  
c) No Dehydration                      f) Dysentery
- iii) a) Stiff
- iv) a) Very Severe Febrile Disease      b) Malaria
- v) Severe Malnutrition  
Very Low Weight  
Not Very Low Weight

### Check Your Progress 4

- i) a) 2 tablets 2 times daily for five days.  
b) 3 tablets 2 times daily for five days.
- ii) a) The three rules of home treatment are:
- Give extra fluid
  - Continue feeding
  - When to return
- b) Advise the mother to give ORS solution or clean water other food based fluids can be soup, rice water and Yogurt drinks.
- c) If the child vomits, wait 10 minutes then continue, but more slowly. Continue giving extra fluid until the diarrhoea stops.