INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS

MANAGEMENT OF THE SICK YOUNG INFANT AGE 1 WEEK UP TO 2 MONTHS

World Health Organization and UNICEF
1997

Integrated Management of Childhood Illness was prepared by the World Health Organization's Division for Control of Diarrhoeal and Respiratory Infections (CDR), now the Division of Child Health and Development (CHD), and UNICEF through a contract with ACT International, Atlanta, Georgia, USA.

CONTENTS

INTRODUCTION

In this module you will learn to manage a sick young infant age 1 week up to 2 months. The process is very similar to the one you have learned for managing the sick child age 2 months up to 5 years. All the steps are on one chart:

Assess
Classify
Treat
Counsel the mother
Follow-up

Young infants have special characteristics that must be considered when classifying their illness. They can become sick and die very quickly from serious bacterial infections. They frequently have only general signs such as few movements, fever, or low body temperature. Mild chest indrawing is normal in young infants because their chest wall is soft. For these reasons, you will assess, classify and treat the young infant somewhat differently than an older infant or young child. The *YOUNG INFANT* chart lists the special signs to assess, classifications, and treatments for young infants.

{Module 06 – page 001.jpg}

This chart is not used for a sick newborn, that is a young infant who is less than 1 week of age. In the first week of life, newborn infants are often sick from conditions related to labour and delivery or have conditions which require special management.[1] Health workers who care for sick newborns must be familiar with labour and delivery and their complications. Therefore, training in management of sick newborns will be combined with training in labour and delivery in another course.

There is a special recording form for young infants. It is similar in format to the form for older infants and young children. It lists signs to assess in a young infant. (A copy of this form is in the Annex.)

Some of what you already learned in managing sick children age 2 months up to 5 years is useful for young infants. This module will focus on new information and skills that you need to manage young infants.

LEARNING OBJECTIVES

This module will describe the following tasks and allow you to practice some of them (some will be practiced in the clinic):

* assessing and classifying a young infant for possible bacterial infection
* assessing and classifying a young infant with diarrhoea
* checking for a feeding problem or low weight, assessing breastfeeding and classifying feeding
* treating a young infant with oral or intramuscular antibiotics
* giving fluid for treatment of diarrhoea
* teaching the mother to treat local infections at home
* teaching correct positioning and attachment for breastfeeding

[1] Newborns may be suffering from asphyxia, sepsis from premature ruptured membranes or other intrauterine infection, or birth trauma. Or they may have trouble breathing due to immature lungs. Jaundice also requires special management in the first week of life. For all these reasons, management of a sick newborn is somewhat different from caring for a young infant age 1 week up to 2 months.

For information on training in managing sick newborns and labour and delivery, contact the Family Health Division, World Health Organization, Geneva, Switzerland.

* advising the mother how to give home care for the young infant

1.0 ASSESS AND CLASSIFY THE SICK YOUNG INFANT

Ask the mother what the young infant's problems are. Determine if this is an initial or follow-up visit for these problems. If this is a follow-up visit, you should manage the infant according to the special instructions for a follow-up visit. These special instructions are in the follow-up boxes at the bottom of the *YOUNG INFANT* chart. They are taught in the module *Follow-up*.

If it is an initial visit, follow the sequence of steps on the chart. This section teaches the steps to assess and classify a sick young infant at an initial visit:

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

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

1.1 CHECK THE YOUNG INFANT FOR POSSIBLE BACTERIAL INFECTION

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

It is important to assess the signs in the order on the chart, and to keep the young infant calm. The young infant ***must be calm*** and may be asleep while you assess the first four signs, that is, count breathing and look for chest indrawing, nasal flaring and grunting.

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

{Module 06 – page 005.jpg}

How to assess each sign is described below.

ASK: Has the infant had convulsions?

Ask the mother this question.

LOOK: Count the breaths in one minute. Repeat the count if elevated.

Count the breathing rate as you would in an older infant or young child. Young infants usually breathe faster than older infants and young children. The breathing rate of a healthy young infant is commonly more than 50 breaths per minute. Therefore, 60 breaths per minute or more is the cutoff used to identify fast breathing in a young infant.

If the first count is 60 breaths or more, repeat the count. This is important because the breathing rate of a young infant is often irregular. The young infant will occasionally stop breathing for a few seconds, followed by a period of faster breathing. If the second count is also 60 breaths or more, the young infant has fast breathing.

LOOK for severe chest indrawing.

Look for chest indrawing as you would look for chest indrawing in an older infant or young child. However, mild chest indrawing is normal in a young infant because the chest wall is soft. Severe chest indrawing is very deep and easy to see. Severe chest indrawing is a sign of pneumonia and is serious in a young infant.

LOOK for nasal flaring.

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

{Module 06 – page 006.jpg}

Normal position of nostrils ***Nostrils flare when infant breathes in***

LOOK and LISTEN for grunting.

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

LOOK and FEEL for bulging fontanelle.

The fontanelle is the soft spot on the top of the young infant's head, where the

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

{Module 06 – page 007.jpg}

LOOK for pus draining from the ear.

LOOK at the umbilicus - is it red or draining pus? Does the redness extend to the skin?

There may be some redness of the end of the umbilicus or the umbilicus may be draining pus. (The cord usually drops from the umbilicus by one week of age.) How far down the umbilicus the redness extends determines the severity of the infection. If the redness extends to the skin of the abdominal wall (as shown in this drawing), it is a serious infection.

{Module 06 – page 008.jpg}

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

Fever (axillary temperature more than 37.5°C or rectal temperature more than 38°C) is uncommon in the first two months of life. If a young infant has fever, this may mean the infant has a serious bacterial infection. In addition, fever may be the ***only*** sign of a serious bacterial infection. Young infants can also respond to infection by dropping their body temperature to below 35.5°C (36°C rectal temperature). Low body temperature is called hypothermia.

If you do not have a thermometer, feel the infant's stomach or axilla (underarm) and determine if it feels hot or unusually cool.

LOOK for skin pustules. Are there many or severe pustules?

Examine the skin on the entire body. Skin pustules are red spots or blisters which contain pus. If you see pustules, is it just a few pustules or are there many? A severe pustule is large or has redness extending beyond the pustule. Many or severe pustules indicate a serious infection.

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

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

A lethargic young infant is not awake and alert when he should be. He may be drowsy and may not stay awake after a disturbance. If a young infant does not wake up during the assessment, ask the mother to wake him. Look to see if the child wakens when the mother talks or gently shakes the child or when you clap your hands. See if he stays awake.

An unconscious young infant cannot be wakened at all. He does not respond when he is touched or spoken to.

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

An awake young infant will normally move his arms or legs or turn his head several times in a minute if you watch him closely. Observe the infant's movements while you do the assessment.

Your facilitator will lead a drill to review the cut-offs for fast breathing in young infants, older infants and children.

EXERCISE A

Part 1 -- Video

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

Part 2 -- Photographs

Study the photographs numbered 60 - 62 in the booklet. Read the explanation below for each photo.

Photograph 60: Normal umbilicus in a newborn
Photograph 61: An umbilicus with redness extending to the skin of the abdomen
Photograph 62: Many skin pustules

Study the photographs numbered 63 - 65. Tick your assessment of the umbilicus of each of these young infants.

Umbilicus	**Normal**	**Redness or draining pus**	**Redness extending to the skin of abdomen**
Photograph 63			
Photograph 64			
Photograph 65			

The group will discuss the video and photographs.

1.2 CLASSIFY ALL SICK YOUNG INFANTS FOR BACTERIAL INFECTION

Classify all sick young infants for bacterial infection. Compare the infant's signs to signs listed and choose the appropriate classification. If the infant has any sign in the top row, select POSSIBLE SERIOUS BACTERIAL INFECTION. An infant who has none of the signs gets no classification of bacterial infection. Select only one classification in this table.

{Module 06 – page 011.jpg}

POSSIBLE SERIOUS BACTERIAL INFECTION

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

A young infant with any sign of POSSIBLE SERIOUS BACTERIAL INFECTION needs urgent referral to hospital. Before referral, give a first dose of intramuscular antibiotics and treat to prevent low blood sugar. Malaria is unusual in infants of this age, so give no treatment for possible severe malaria.

Advising the mother to keep her sick young infant warm is very important. Young infants have difficulty maintaining their body temperature. Low

temperature alone can kill young infants.

LOCAL BACTERIAL INFECTION

Young infants with this classification have an infected umbilicus or a skin infection.

Treatment includes giving an appropriate oral antibiotic at home for 5 days. The mother will also treat the local infection at home and give home care. She should return for follow-up in 2 days to be sure the infection is improving. Bacterial infections can progress rapidly in young infants.

1.3 ASSESS DIARRHOEA

If the mother says that the young infant has diarrhoea, assess and classify for diarrhoea. The normally frequent or loose stools of a breastfed baby are not diarrhoea. The mother of a breastfed baby can recognize diarrhoea because the consistency or frequency of the stools is different than normal. The assessment is similar to the assessment of diarrhoea for an older infant or young child, but fewer signs are checked. Thirst is not assessed. This is because it is not possible to distinguish thirst from hunger in a young infant.

{Module 06 – page 012.jpg}

1.4 CLASSIFY DIARRHOEA

Diarrhoea in a young infant is classified in the same way as in an older infant or young child. Compare the infant's signs to the signs listed and choose one classification for dehydration. Choose an additional classification if the infant has diarrhoea for 14 days or more, or blood in the stool.

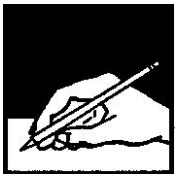
{Module 06 – page 013.jpg}

Note that there is only one possible classification for persistent diarrhoea in a young infant. This is because any young infant who has persistent diarrhoea has suffered with diarrhoea a large part of his life and should be referred.

Using the Young Infant Recording Form

Below is part of a Young Infant Recording Form. The top lines are like the top of the Sick Child Recording Form. The next sections are for assessing and classifying POSSIBLE BACTERIAL INFECTION and DIARRHOEA. Notice that for a young infant, there are no separate "general danger signs". Study the example below. It has been completed to show part of the assessment results and classifications for the infant Jomli.

{Module 06 – page 014.jpg}



EXERCISE B

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

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

To do each case:

1. Label a recording form with the young infant's name.

2. Read the case information. Write the infant's age, weight, temperature and problem. Check "Initial Visit". (All the infants in this exercise are coming for an initial visit.)

3. Record the assessment results on the form.

4. Classify the infant for possible bacterial infection and diarrhoea.

5. Then go to the next case.

Case 1: Henri

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

{Module 06 – page 016.jpg}

Case 2: Sashie

Sashie is 5 weeks old. Her weight is 4 kg. Her axillary temperature is 37° C. Her mother brought her to the clinic because she has a rash. The health worker assesses for signs of possible bacterial infection. Sashie's mother says that there were no convulsions. Sashie's breathing rate is 55 per minute. She has no chest indrawing, no nasal flaring, and no grunting. Her fontanelle is not bulging. There is no pus in her ears and her umbilicus is normal. The health worker examines her entire body and finds a red rash with just a few skin pustules on her buttocks. She is awake, not lethargic, and her movements are normal. She does not have diarrhoea.

Case 3: Ebai

Ebai is a tiny baby who was born exactly 2 weeks ago. His weight is 2.5 kg. His axillary temperature is 36.5° C. His mother says that he was born prematurely, at home, and was born much smaller than her other babies. She is worried because his umbilicus is infected. She says he has had no convulsions. The health worker counts his breathing and finds he is breathing 55 breaths per minute. He has no chest indrawing, no nasal flaring and no grunting. His fontanelle is not bulging. There is no pus draining from his ears. His umbilicus has some pus on the tip and a little redness at the tip only. The health worker looks over his entire body and finds no skin pustules. He is awake and content. He is moving a normal amount. He does not have diarrhoea.

{Module 06 – page 017.jpg}

Case 4: Jenna

Jenna is 7 weeks old. Her weight is 3 kg. Her axillary temperature is 36.4°C. Her mother has brought her because she has diarrhoea. The health worker first assesses her for signs of bacterial infection. Her mother says that she has not had convulsions. Her breathing rate is 58 per minute. She was sleeping in her mother's arms but awoke when her mother unwrapped her. She has slight chest indrawing, no nasal flaring and no grunting. Her fontanelle is not bulging. No pus is draining from her ears. Her umbilicus is not red or draining pus. She has a rash in the area of her diaper, but there are no pustules. She is crying and moving her arms and legs.

When the health worker asks the mother about Jenna's diarrhoea, the mother replies that it began 3 days ago, and there is blood in the stool. Jenna is still crying. She stopped once when her mother put her to the breast. She began crying again when she stopped breastfeeding. Her eyes look normal, not sunken. When the skin of her abdomen is pinched, it goes back slowly.

Case 5: Neera

Neera is 6 weeks old. Her weight is 4.2 kg. Her axillary temperature measures 36.5° C. Her mother brought her to the clinic because she has diarrhoea and seems very sick. When the health worker asks the mother if Neera has had convulsions, she says no. The health worker counts 50 breaths per minute. Neera has severe chest indrawing and nasal flaring. She is not grunting. Her

fontanelle is not bulging. There is no pus draining from her ears and her umbilicus is not red or draining pus. There are no pustules on her body. Undressing Neera, speaking to her, shaking her arms and legs and picking her up do not wake her. Neera is unconscious.

In response to the health worker's questions, the mother says that Neera has had diarrhoea for 1 week, and there is no blood in the stool. The health worker finds that her eyes are sunken. When the skin on her abdomen is pinched, it goes back very slowly.

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

Note: Keep the recording forms for these 5 young infants. You will continue to assess, classify and identify treatment for them later in this module.

1.5 THEN CHECK FOR FEEDING PROBLEM OR LOW WEIGHT

Adequate feeding is essential for growth and development. Poor feeding during infancy can have lifelong effects. Growth is assessed by determining weight for age. It is important to assess a young infant's feeding and weight so that feeding can be improved if necessary.

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

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

The assessment has two parts. In the first part, you ask the mother questions. You determine if she is having difficulty feeding the infant, what the young infant is fed and how often. You also determine weight for age.

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

1.5.1 Ask About Feeding and Determine Weight for Age

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

{Module 06 – page 020.jpg}

ASK: Is there any difficulty feeding?

Any difficulty mentioned by the mother is important. This mother may need counselling or specific help with a difficulty.[2] If a mother says that the infant is **not able to feed**, assess breastfeeding or watch her try to feed the infant with a cup to see what she means by this. An infant who is **not able to feed** may have a serious infection or other life-threatening problem and should be referred urgently to hospital.

ASK: Is the infant breastfed? If yes, how many times in 24 hours?

The recommendation is that the young infant be breastfed as often and for as long as the infant wants, day and night. This should be 8 or more times in 24 hours.

[2] Breastfeeding difficulties mentioned by a mother may include: her infant feeds too frequently, or not frequently enough; she does not have enough milk; her nipples are sore; she has flat or inverted nipples; or the infant does not want to take the breast.

ASK: Does the infant usually receive any other foods or drinks? If yes, how often?

A young infant should be exclusively breastfed. Find out if the young infant is receiving ***any*** other foods or drinks such as other milk, juice, tea, thin porridge, dilute cereal, or even water. Ask how often he receives it and the amount. You need to know if the infant is mostly breastfed, or mostly fed on other foods.

ASK: What do you use to feed the infant?

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

LOOK: Determine weight for age.

Use a weight for age chart to determine if the young infant is low weight for age. Notice that ***for a young infant you should use the Low Weight for Age line***, instead of the Very Low Weight for Age line, which is used for older infants and children.

Remember that the age of a young infant is usually stated in weeks, but the Weight for Age chart is labeled in months. Some young infants who are low weight for age were born with low birthweight. Some did not gain weight well after birth.

EXAMPLE: A young infant is 6 weeks old and weighs 3 kg. Here is how the health worker checked if the infant was low weight for age.

{Module 06 – page 022.jpg}

Your facilitator will lead a drill to give you practice reading a weight for age chart for a young infant.

1.5.2 Assess Breastfeeding

First decide whether to assess the infant's breastfeeding:

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

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

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

In these situations, classify the feeding based on the information that you have already.

If the mother's answers or the infant's weight indicates a difficulty, observe a breastfeed as described below. Low weight for age is often due to low birthweight. Low birthweight infants are particularly likely to have a problem with breastfeeding.

{Module 06 – page 023.jpg}

Assessing breastfeeding requires careful observation.

ASK: Has the infant breastfed in the previous hour?

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

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

Sit quietly and watch the infant breastfeed.

{Module 06 – page 024.jpg}

LOOK: Is the infant able to attach?

The four signs of good attachment are:

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

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

If attachment is not good, you may see:

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

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

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

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

A baby well attached to his mother's breast

A baby poorly attached to his mother's breast

{Module 06 – page 025.jpg}

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

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

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

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

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

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

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

EXERCISE C

This exercise is a video case study of a young infant. You will practice assessing and classifying the young infant for possible bacterial infection and diarrhoea. Write your assessment results on the recording form on the next page. Then record the infant's classifications.

{Module 06 – page 028.jpg}

EXERCISE D

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

Part 1 -- Video

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

Part 2 -- Photographs

1. Study photographs numbered 66 through 70 of young infants at the breast. Look for each of the **signs** of good attachment. Compare your observations about each photograph with the answers in the chart below to help you learn what each sign looks like. Notice the **overall** assessment of attachment.

2. Now study photographs 71 through 74. In each photograph, look for each of the **signs** of good attachment and mark on the chart whether each is present. Also write your overall assessment of attachment.

Photo	Signs of Good Attachment				Assessment	Comments
	Chin Touching Breast	Mouth Wide Open	Lower Lip Turned Outward	More Areola Showing Above		
66	yes (almost)	yes	yes	yes	Good attachment	
67	no	no	yes	no (equal above and below)	Not well attached	

Photo	Signs of Good Attachment				Assessment	Comments
	Chin Touching Breast	Mouth Wide Open	Lower Lip Turned Outward	More Areola Showing Above		
68	yes	no	no	yes	Not well attached	Lower lip turned in
69	no	no	no	no	Not well attached	Cheeks pulled in
70	yes	yes	yes	cannot see	Good attachment	
71						
72						
73						
74						

3. Study photographs 75 and 76. These photographs show white patches (thrush) in the mouth of an infant.

When you have finished assessing the photographs, discuss your answers with a facilitator.

1.6 CLASSIFY FEEDING

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

{Module 06 – page 031.jpg}

NOT ABLE TO FEED - POSSIBLE SERIOUS BACTERIAL INFECTION

The young infant who is not able to feed has a life-threatening problem. This could be due to a bacterial infection or another sort of problem.[3] The infant requires immediate attention.

Treatment is the same as for the classification POSSIBLE SERIOUS BACTERIAL INFECTION at the top of the chart. Refer the young infant urgently to hospital. Before departure give a first dose of intramuscular antibiotics. Also treat the infant to prevent low blood sugar by giving breastmilk, other milk or sugar water by nasogastric tube.

FEEDING PROBLEM OR LOW WEIGHT

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

Advise the mother of any young infant in this classification to breastfeed as often and for as long as the infant wants, day and night. Short breastfeeds are an important reason why an infant may not get enough breastmilk. The infant should breastfeed until he is finished. Teach each mother about any specific help her infant needs, such as better positioning and attachment for breastfeeding, or treating thrush. Also advise the mother how to give home care for the young infant.

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

NO FEEDING PROBLEM

A young infant in this classification is exclusively and frequently breastfed. "Not low" weight for age means that the infant's weight for age is not below the line for "Low Weight for Age". It is not necessarily normal or good weight for age, but the infant is not in the high risk category that we are most concerned with.

1.7 THEN CHECK THE YOUNG INFANT'S IMMUNIZATION

[3] An infant with neonatal tetanus who has stopped being able to feed and has stiffness would be referred based on this classification.

STATUS

Check immunization status just as you would for an older infant or young child. Remember that you should not give OPV 0 to an infant who is more than 14 days old. Therefore, if an infant has not received OPV 0 by the time he is 15 days old, you should wait to give OPV until he is 6 weeks old. Then give OPV 1 together with DPT 1.

{Module 06 – page 033.jpg}

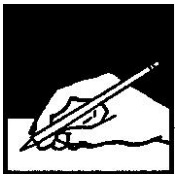
1.8 ASSESS OTHER PROBLEMS

Assess any other problems mentioned by the mother or observed by you. Refer to any guidelines on treatment of the problems. If you think the infant has a serious problem, or you do not know how to help the infant, refer the infant to a hospital.

Using the Young Infant Recording Form

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

{Module 06 – page 034.jpg}



EXERCISE E

This exercise will continue the 5 cases begun in Exercise B. Get out the five Young Infant Recording Forms that you used in Exercise B. Refer to the *YOUNG INFANT* chart and the Weight for Age chart as needed.

For each case:

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

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

3. Classify feeding.

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

Case 1: Henri

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

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

Case 2: Sashie

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

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

Case 3: Ebai

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

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

Ebai has had no immunizations.

Case 4: Jenna

When asked, Jenna's mother says that Jenna usually feeds well. She breastfeeds 3 times a day. She also takes a bottle of breastmilk substitute 3 times a day. The health worker checks her weight for age.

Since Jenna is taking other foods and is low weight for age, the health worker decides to assess breastfeeding. Jenna has not fed in the previous hour. Her mother agrees to try to breastfeed now. The health worker observes that Jenna's chin is not touching the breast. Her mouth is not very wide open, and her lips are pushed forward. The same amount of areola is visible above and below the mouth. Her sucks are quick and are not deep. When Jenna stops breastfeeding, the health worker looks in her mouth. He sees no ulcers or white patches in her mouth.

Jenna's mother has an immunization card. It shows that Jenna received BCG and OPV 0 in the hospital. Her mother says that she has no other problems.

Case 5: Neera

The health worker asks Neera's mother if she has difficulty feeding her. The mother says that there was no difficulty until Neera got sick, but now she is not feeding. She breastfed a little last night. This morning her mother repeatedly tried to breastfeed her, but Neera cannot feed, she just sleeps. She usually breastfeeds 8 times in 24 hours and takes no other drinks. The health worker checks her weight for age.

Since Neera is not able to feed and should be referred urgently, the health worker does not assess breastfeeding. Neera's mother says that she was born at home and has received no immunizations.

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

2.0 IDENTIFY APPROPRIATE TREATMENT

For each of the young infant's classifications, find the treatments recommended on the *YOUNG INFANT* chart. List them on the recording form.

2.1 DETERMINE IF THE YOUNG INFANT NEEDS URGENT REFERRAL

If the infant has POSSIBLE SERIOUS BACTERIAL INFECTION, he needs urgent referral.

If the young infant has SEVERE DEHYDRATION (and does not have POSSIBLE SERIOUS BACTERIAL INFECTION), the infant needs rehydration with IV fluids according to Plan C. If you can give IV therapy, you can treat the infant in the clinic. Otherwise urgently refer the infant for IV therapy.

If a young infant has both SEVERE DEHYDRATION and POSSIBLE SEVERE BACTERIAL INFECTION, refer the infant urgently to hospital. The mother should give frequent sips of ORS on the way and continue breastfeeding.

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

Identify treatments for each classification by reading the chart. Record treatments, advice to give the mother, and when to return for a follow-up visit.

Follow-up visits are especially important for a young infant. If you find at the follow-up visit that the infant is worse, you will refer the infant to the hospital. A young infant who receives antibiotics for local bacterial infection or dysentery should return for follow-up in 2 days. A young infant who has a feeding problem or thrush should return in 2 days. An infant with low weight for age should return for follow-up in 14 days.

2.3 IDENTIFY URGENT, PRE-REFERRAL TREATMENT NEEDED

Before urgently referring a young infant to hospital, give all appropriate pre-referral treatments. Urgent pre-referral treatments are in bold print on the chart. Some treatments should not be given before referral because they are not urgently needed and would delay referral. For example, do not teach a mother how to treat a local infection before referral. Do not give immunizations before referral.

2.4 GIVE URGENT PRE-REFERRAL TREATMENTS

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

- Give first dose of intramuscular antibiotics. (How to give them is described in section 3.2.)

- Give an appropriate oral antibiotic. If the infant needs an oral antibiotic for local bacterial infection or for dysentery, give a first dose before referral.

- Advise the mother how to keep the infant warm on the way to the hospital.

  If the mother is familiar with wrapping her infant next to her body, this is a good way to keep him warm on the way to the hospital. Keeping a sick young infant warm is very important.

- Treat to prevent low blood sugar.

  This treatment is described in the box on the *TREAT* chart and in the *Treat the Child* module (see section 5.3).

- Refer urgently to hospital with mother giving frequent sips of ORS on the way. Advise mother to continue breastfeeding.

2.5 REFER THE YOUNG INFANT

Use the same procedures for referring a young infant to hospital as for referring an older infant or young child. Prepare a referral note and explain to the mother the reason you are referring the infant. Teach her anything she needs to do on the way, such as keeping the young infant warm, breastfeeding, and giving sips of ORS.

In addition, explain that young infants are particularly vulnerable. When they are seriously ill, they need hospital care and need to receive it promptly. Many cultures have reasons NOT to take a young infant to hospital. If this is the case, you will have to address these reasons and explain that the infant's illness can best be treated at the hospital.

If the mother is not going to take the infant to hospital, follow the guidelines in Annex E: When Referral Is Not Possible, in the module *Treat the Child*.

{Module 06 – page 040.jpg}

3.0 TREAT THE SICK YOUNG INFANT AND COUNSEL THE MOTHER

The treatment instructions for a young infant are on the *YOUNG INFANT* chart. These are all appropriate for young infants and should be used instead of those on the *TREAT THE CHILD* chart. For example, the antibiotics and dosages on the *YOUNG INFANT* chart are appropriate for young infants. Exceptions are the fluid plans for treating diarrhoea and the instructions for preventing low blood sugar located on the *TREAT THE CHILD* chart. Plans A, B, and C and the box "Treat the Child to Prevent Low Blood Sugar" on the *TREAT THE CHILD* chart are used for young infants as well as older infants and young children.

3.1 GIVE AN APPROPRIATE ORAL ANTIBIOTIC

Refer to the box on the *YOUNG INFANT* chart for the recommended antibiotic for local bacterial infection or dysentery. Then determine the dose based on the young infant's weight.

{Module 06 – page 041.jpg}

Follow the steps on the *TREAT THE CHILD* chart for teaching a mother how to give an oral antibiotic at home. That is, teach her how to measure a single dose. Show her how to crush a tablet and mix it with breastmilk. Guide her as needed to give the first dose, and teach her the schedule. Watch the mother and ask checking questions to be

sure she knows how to give the antibiotic.

Note: Avoid giving cotrimoxazole to a young infant less than 1 month of age who is premature or jaundiced. Give this infant amoxycillin or benzylpenicillin instead.

3.2 GIVE FIRST DOSE OF INTRAMUSCULAR ANTIBIOTICS

Young infants get two intramuscular antibiotics: intramuscular gentamicin and intramuscular benzylpenicillin. Young infants with POSSIBLE SERIOUS BACTERIAL INFECTION are often infected with a broader range of bacteria than older infants. The combination of gentamicin and penicillin is effective against this broader range of bacteria.

{Module 06 – page 042.jpg}

Using Gentamicin

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

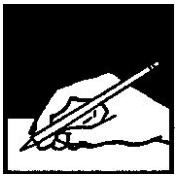
Choose the dose from the row of the table which is closest to the infant's weight.

Using Benzylpenicillin

Read the vial of benzylpenicillin to determine its strength. Benzylpenicillin will need to be mixed with sterile water. It is better to mix a vial of 1 000 000 units in powder with 3.6 ml sterile water, instead of 2.1 ml sterile water. This will allow more accurate measurement of the dose.

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

If an infant with POSSIBLE SERIOUS BACTERIAL INFECTION cannot go to a hospital, it is possible to continue treatment using these intramuscular antibiotics. Instructions are in Annex E: Where Referral is Not Possible, in the module *Treat the Child*.



EXERCISE F

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

Take out the Young Infant Recording Forms that you used in Exercises B and E.

For each case:

1. Review the infant's assessment results and classifications which you have written on the recording form, to remind you of the infant's condition. Note that one of the young infants is unconscious and may not be able to take oral medication and cannot breastfeed. Also note that one of the young infants is premature.

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

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

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

3.3 TO TREAT DIARRHOEA, SEE *TREAT THE CHILD*

The *YOUNG INFANT* chart refers you to the *TREAT THE CHILD* chart for instructions on treating diarrhoea. You have already learned Plan A to treat diarrhoea at home and Plans B and C to rehydrate an older infant or young child with diarrhoea. However, there are some special points to remember about giving these treatments to a young infant.

Plan A: Treat Diarrhoea at Home

All infants and children who have diarrhoea need extra fluid and continued feeding to prevent dehydration and give nourishment. The best way to give a young infant extra fluid and continue feeding is to breastfeed more often and for longer at each breastfeed. Additional fluids that may be given to a young infant are ORS solution and clean water. If an infant is exclusively breastfed, it is important not to introduce a food-based fluid.

If a young infant will be given ORS solution at home, you will show the mother how much ORS to give the infant after each loose stool. She should first offer a breastfeed, 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. During the first 4 hours of rehydration, encourage the mother to pause to breastfeed the infant whenever the infant wants, then resume giving ORS. Give a young infant who does not breastfeed an additional 100-200 ml clean water during this period.

3.4 IMMUNIZE EVERY SICK YOUNG INFANT, AS NEEDED

Administer any immunizations that the young infant needs today. Tell the mother when to bring the infant for the next immunizations.

3.5 TEACH THE MOTHER TO TREAT LOCAL INFECTIONS AT HOME

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

{Module 06 – page 046.jpg}

Explain and demonstrate the treatment to the mother. Then watch her and guide her as needed while she gives the treatment. She should return for follow-up in 2 days, or sooner if the infection worsens. She should stop using gentian violet after 5 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%) gentian violet.

If the mother will treat thrush, give her a bottle of half-strength (0.25%) gentian violet.

3.6 TEACH CORRECT POSITIONING AND ATTACHMENT FOR BREASTFEEDING

Reasons for Poor Attachment and Ineffective Suckling

There are several reasons that an infant may be poorly attached or not able to suckle effectively. He may have had bottle feeds, especially in the first few days after delivery. His mother may be inexperienced. She may have had some difficulty and nobody to help or advise her. For example, perhaps the infant was small and weak, the mother's nipples were flat or there was a delay starting to breastfeed.

The infant may be poorly positioned at the breast. Positioning is important because poor positioning often results in poor attachment, especially in younger infants. If the infant is positioned well, the attachment is likely to be good.

Good positioning is recognized by the following signs:
- Infant's neck is straight or bent slightly back,
- Infant's body is turned towards the mother,
- Infant's body is close to the mother, and
- Infant's whole body is supported.

Poor positioning is recognized by any of the following signs:
- Infant's neck is twisted or bent forward,
- Infant's body is turned away from mother,
- Infant's body is not close to mother, or
- Only the infant's head and neck are supported

{Module 06 – page 047.jpg}

Baby's body close, facing breast

Baby's body away from mother, neck twisted

Improving Positioning and Attachment

If in your assessment of breastfeeding you found any difficulty with attachment or suckling, help the mother position and attach her infant better. Make sure that the mother is comfortable and relaxed, for example, sitting on a low seat with her back straight. Then follow the steps in the box below.

{Module 06 – page 048.jpg}

Always observe a mother breastfeeding before you help her, so that you understand her situation clearly. Do not rush to make her do something different. If you see that the mother needs help, first say something encouraging, like:

> "She really wants your breastmilk, doesn't she?"

Then explain what might help and ask if she would like you to show her. For example, say something like,

> "Breastfeeding might be more comfortable for you if your baby took a larger mouthful of breast. Would you like me to show you how?"

If she agrees, you can start to help her.

{Module 06 – page 049.jpg}

Infant ready to attach. Nose is opposite nipple, mouth is open wide.

As you show the mother how to position and attach the infant, be careful not to take over from her. Explain and demonstrate what you want her to do. Then let the mother position and attach the infant herself.

Then look for signs of good attachment and effective suckling again. If the attachment or suckling is not good, ask the mother to remove the infant from her breast and to try again.

When the infant is suckling well, explain to the mother that it is important to breastfeed long enough at each feed. She should not stop the breastfeeding before the infant wants to.

Counselling about Other Feeding Problems

* If a mother is breastfeeding her infant less than 8 times in 24 hours, advise her to increase the frequency of breastfeeding. Breastfeed as often and for as long as the infant wants, day and night.

* If the infant receives other foods or drinks, counsel the mother about breastfeeding more, reducing the amount of the other foods or drinks, and if possible, stopping altogether. Advise her to feed the infant any other drinks from a cup, and not from a feeding bottle.

* If the mother does not breastfeed at all, consider referring her for breastfeeding counselling and possible relactation. If the mother is interested, a breastfeeding counsellor may be able to help her to overcome difficulties and begin breastfeeding again.

  Advise a mother who does not breastfeed about choosing and correctly preparing an appropriate breastmilk substitute (see section 3.1 of *Counsel the Mother* module). Also advise her to feed the young infant with a cup, and not from a feeding bottle.

Follow-up any young infant with a feeding problem in 2 days. This is especially important if you are recommending a significant change in the way the infant is fed.

EXERCISE G

Part 1 - Video

You will watch a video demonstration of the steps to help a mother improve her baby's positioning and attachment for breastfeeding.

Part 2 - Photographs

In this exercise you will study photographs to practice recognizing signs of good or poor positioning and attachment for breastfeeding. When everyone is ready, there will be a group discussion of each of the photographs. You will discuss what the health worker could do to help the mother improve the positioning and attachment for breastfeeding.

1. Study photographs numbered 77 through 79 of young infants at the breast. Look for each of the signs of good positioning. Compare your observations about each photograph with the answers in the chart below to help you learn what good or poor positioning looks like.

2. Now study photographs 80 through 82. In these photographs, look for each of the signs of good positioning and mark on the chart whether each is present. Also decide if the attachment is good.

Photo	Signs of Good Positioning				Comments on Attachment
	Infant's Head and Body Straight	Head and Body Facing Breast	Infant's Body Close to Mother's	Supporting Infant's Whole Body	
77	yes	yes	yes	yes	
78	yes	yes	yes	yes	

	Signs of Good Positioning	

Photo					Comments on attachment
	Infant's Head and Body Straight	Head and Body Facing Breast	Infant's Body Close to Mother's	Supporting Infant's Whole Body	
79	no - neck turned so not straight with body	no	no - turned away from mother's body	no	Not well attached: mouth not wide open, lower lip not turned out, areola equal above and below
80					
81					
82					

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

3.7 ADVISE MOTHER TO GIVE HOME CARE FOR THE YOUNG INFANT

These are basic home care steps for ALL sick young infants. Teach each mother these steps.

{Module 06 – page 053.jpg}

FOOD AND FLUIDS:

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

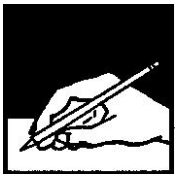
WHEN TO RETURN:

Tell the mother when to return for a ***follow-up visit***.

Also teach the mother ***when to return immediately***. The signs mentioned above are particularly important signs to watch for. Teach the mother these signs. Use the mother's card to explain the signs and help her to remember them. Ask her checking questions to be sure she knows when to return immediately.

MAKE SURE THE YOUNG INFANT STAYS WARM AT ALL TIMES:

Keeping a sick young infant warm (but not too warm) is very important. Low temperature alone can kill young infants.



EXERCISE H

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

Get out the Young Infant Recording Forms which you completed in Exercise E for Case 2 - Sashie and Case 4 - Jenna. Refer to the *YOUNG INFANT* chart as needed.

For each case:

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

2. Answer the additional questions below about treating each case.

Case 2: Sashie

1. In addition to treatment with antibiotics, Sashie needs treatment at home for her local infection, that is, the pustules on her buttocks. List below the steps that her mother should take to treat the skin pustules at home.

   *

   *

   *

   *

   *

2. How often should her mother treat the skin pustules?

3. Sashie also needs "home care for the young infant." What are the 3 main points to advise the mother about home care?

   *

   *

   *

4. What would you tell Sashie's mother about when to return?

Case 4: Jenna

1. In addition to treatment with antibiotics, Jenna needs treatment for SOME DEHYDRATION according to Plan B. How much ORS should Jenna be given for the first 4 hours of treatment?

   Should she receive any other fluids during the 4-hour period? If so, what fluids?

2. While giving ORS, the several mothers in the ORT corner were taught how to mix ORS. After 4 hours of treatment, Jenna is reassessed. She is calm. A skin pinch goes back immediately. The health worker classifies her as having NO DEHYDRATION and selects Plan A to continue her treatment.

   The health worker tells the mother that during diarrhoea, Jenna will need extra fluids. She explains that the best way to give an infant extra fluids is to breastfeed frequently and for longer at each feed. The health worker also gives her mother 2 packets of ORS to give to Jenna at home.

What else should the health worker tell the mother about giving ORS at home?

3. During the 4 hours in the ORT corner, the health worker was also able to help Jenna's mother to position and attach her better for breastfeeding. What other feeding advice should the health worker give?

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

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

ANNEX

RECORDING FORM:

Management of the Sick Young Infant Age 1 Week up to 2 Months

{Module 06 – page 059.jpg}

{Module 06 – page 060.jpg}